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PERINEAL PROSTATECTOMY*

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When one considers the skill with which a past generation of British surgeons performed the operation of lithotomy, it is surprising that perineal prostatectomy, both conservative and radical, has not found favour among our surgeons to-day. The phenomenal success of Freyer has influenced our prostatic work, and all operations developed since then have been modifications of Freyer's, with the possible exception of Millin's retropubic operation.

I do not intend to cover in detail the routine investigation, pre-operative and post-operative care of the prostatic case as I would prefer to devote the time to a detailed description of the modern perineal operation. Regarding prostatic enlargement *per rectum* one should remember that in some cases the prostate is swollen because of retained secretion or pus, and it may be necessary to massage this away on several occasions before a true estimate of the degree of hypertrophy is obtained. Macalpine (1936) and others are against routine cystoscopy. If the phenolsulphonehpthalein test of Rowntree and Geraghty (1910) shows poor renal function, cystoscopy and other investigations should be postponed until the function has improved as far as possible with catheter drainage and other methods. We have never seen any harm result from cystoscopy carried out with gentleness and skill. If one adopts one procedure for all bladder neck obstructions following Wilson Hey (1945) and others, the need for preliminary cystoscopy falls away, but I am not satisfied that this is the best practice. While intravenous urograms give much information that could only previously be got from cystoscopy, they do not give the information about the condition of the urethra and the bladder neck which enables one to decide whether operation is necessary, and if so, what operation. It is our practice to do a trans-urethral resection if this will give a satisfactory result. We resect all fibrous and glandular bars, all simple middle lobes and all cases of moderate enlargement if the middle lobe is principally involved. We also resect obstructive material at the bladder neck in cases of carcinoma if the condition is otherwise inoperable. We favour this operation in cases of advanced senility or where the patent has not long to live because of some other disease. When the prostate shows generalised enlargement or there is intra-urethral enlargement we prefer enucleation by open operation.

If diverticula are seen or suspected a contrast cystogram is done (McMahon 1939). This shows the size and situation of the diverticula and, occasionally, the presence of ureteral reflux. If the diverticula drain satisfactorily they are of no immediate importance, and once the obstruction at the neck of the bladder is removed they generally give no further trouble. If the diverticula are large and do not empty, they will probably require diverticulectomy at a later date.

If the renal function is good and there is only a moderate amount of residual urine we do not use pre-operative catheter drainage if a trans-urethral resection is planned. If the renal function is poor or if there is a large residual we drain the bladder with an inlying catheter, after decompression, if this has been necessary. In all cases where open operation is planned we drain the bladder by inlying catheter. Whenever we expect to have a catheter lying in the urethra for some time we do a vasoligation at the earliest moment after admission to guard against epididymitis. On simple catheter drainage the renal function will return to normal within seven to ten days if the back pressure is of recent origin, but if the back pressure has been going on for months,

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the renal function may be very slow in recovery. If there is little improvement in function after two weeks, the contrast cystogram will probably reveal reflux with hydro-ureter and hydronephrosis, often more marked on one side than the other. If the renal function is good enough an intravenous urogram may show the ureteral or renal involvement if plates are taken at long intervals. If the blood urea is over 60 mg. per cent., and the contrast cystogram does not reveal reflux, it is difficult to get further information about the condition of the ureters or renal pelves and the pathological condition must be assumed, as intravenous urography is not likely to be successful. Catheterisation of the ureters is difficult because of the prostatic enlargement and is not free from danger of infecting the upper tract. If contrast cystography is carried out as described, reflux will not occur as a result of intravesical pressure unless reflux is already present, so there is no possibility of making the patient's condition worse by starting an upper tract infection.

If the patient cannot be got into condition for operation within three to four weeks because of failure of renal function to improve, a suprapubic cystostomy should be done. Any pathological condition of the upper tract should be dealt with if possible. The patient should be kept under observation and operation reconsidered at a later date. It was previously considered inadvisable to operate within seven to ten days with patients in good condition, but this preliminary drainage may be reduced to-day if renal function is adequate, as urethritis and general urinary infection can now be controlled by sulphonamide or penicillin.

PRE-OPERATIVE ORDERS

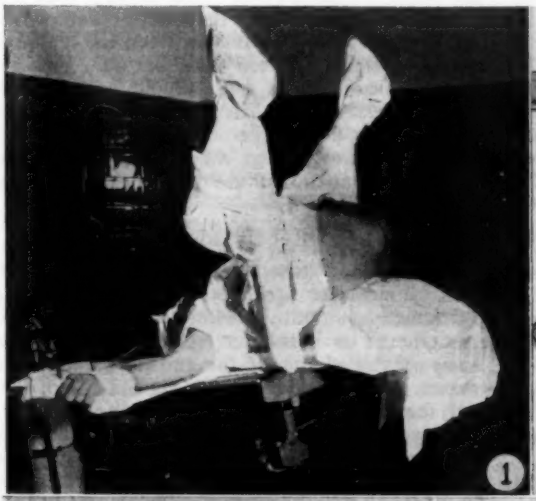
In addition to general pre-operative orders we give a high bowel wash-out some three hours before operation. The contents must be siphoned off and the nurse must see that the bowel is quite empty. The bladder is thoroughly washed out three-quarters of an hour before operation and 200 c.c. of aqueous merthiolate 1 in 10,000 instilled into it and the catheter removed. The anaesthetic used is a combined caudal and trans-sacral after the manner of Clark Johnson (1936). We have proven by experience that the immediate post-operative course is better than if a low spinal anaesthetic is used.

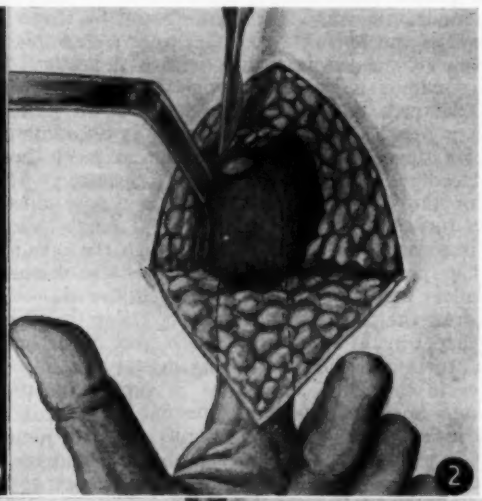
OPERATION

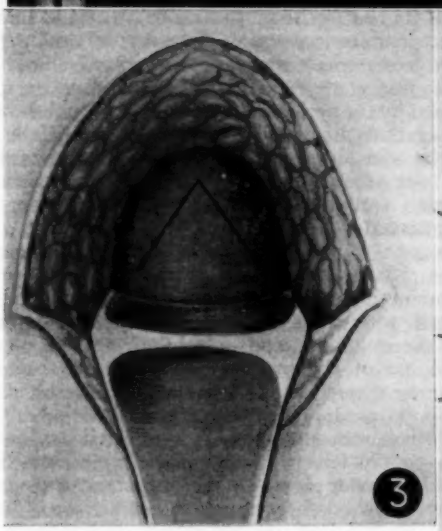
The operation as practised by us follows closely that of Hinman (1929) and Clark M. Johnson (1940). All these operations follow the operation of Dr. Hugh Young. The latter has stressed the importance of correct position for this operation and we had a Halstead board made which could be easily placed on an Allen and Hanbury table. This operation cannot be done conveniently with the patient in the lithotomy position and the table tilted into the Trendelenberg position. On the table the pelvis is pushed well up on a sandbag and the patient held in this position by shoulder brackets. This is the 'position inverse perineale' of Proust (Fig. 1) and makes the perineum lie in the horizontal plane. The legs are draped and the perineum should be so draped that the operator is able to pass his left hand under sterile drapes in order to place a finger in the rectum if necessary. A good spot-light is essential.

A sound is passed into the bladder for guidance and this is followed by a long prostatic tractor. This is similar to Young's short prostatic tractor but is 13½ inches long. It has the advantage of being simple in construction and easily cleaned. This tractor is passed into the bladder and then withdrawn so that its beak lies in the bulb. An inverted U incision is made in front of the anus. The incision is deepened through the subcutaneous fat and the apex of the flap is seized with tissue forceps and the flap dissected back by incising the fat. On each side the fat of the anterior portion of the ischio-rectal fossa is opened to a depth of one and a half inches with the handle of the scalpel, and this dissection brings one up against the superficial transverse muscles of the perineum and, at a greater depth, the lower edge of the urogenital diaphragm. This edge is felt but not seen. The bifid posterior retractor of Young is now inserted into these two pockets. This has the effect of putting the central point of the perineum on the stretch and a few delicate touches with the knife divide the remaining fat and expose it clearly. The operator is now working close against the ano-rectal junction and not against the bulb as is generally believed. The muscle fibres of the bulbo-cavernosu are not seen. The external anal sphincter muscle fibres are usually exposed at this point, but not necessarily so. The fibro-muscular tissue of the centre point of the perineum is divided with a gentle stroke of the knife and a cleavage plane opens up between the bulb and the rectum. Occasionally we have approached the anterior wall of the rectum by lifting the external sphincter muscle forwards as described by Elmer Belt (1939) but we have not adopted this method as a routine. This plane between the bulb and the rectum is opened further with the handle of the scalpel and at this point the blades of the long tractor are opened and the tractor is pulled upwards and towards the patient's abdomen. This has the effect of raising the prostate into the perineal wound. This brings one to the only difficult stage of the operation. With the small bladed retractor the tissues are gently pulled laterally, and with the handle of the knife the medial edge of the levator prostati muscle is pushed laterally off the posterior aspect of the lateral portion of the prostate. A right-handed operator will find it most convenient to work towards the lateral edge of the right lobe. The lateral retractor is now shifted to include the levator prostati in its pull. A longer blade may be necessary but it must be narrow as the working space is small. Still working with the handle of the knife and keeping well forward near the lateral edge of the prostate, the rectum is gently pushed posteriorly. It is a comfort at this stage for all but the experienced to put on an extra glove and place the left forefinger in the rectum as a guide (Fig. 2). The reflection of the rectum from the posterior aspect of the prostate in the perineal exposure extends much further anteriorly than is generally thought. Where there has been inflammation (and in cases of carcinoma), the rectum may be adherent, but can always be separated in operable cases with a little

patience. This blunt dissection deep in the wound exposes the posterior layer of Denonvillier's fascia. This is incised with the edge of the knife and, using the handle again, a start can be made in clearing the posterior aspect of the prostate. If a finger has been inserted in the rectum it can now be removed and the glove removed. The clearing of the posterior aspect of the prostate is now easy. In the middle line the recto-urethralis muscle is divided and the rectum falls back. The recto-urethralis which consists of fibres derived from the longitudinal band of the rectum extending into, and being continuous with, the external sphincter urethrae, is a very variable muscle, sometimes being as thick as a pencil and sometimes consisting of only a few fibres. When the prostate is cleared a posterior retractor is inserted. It is necessary







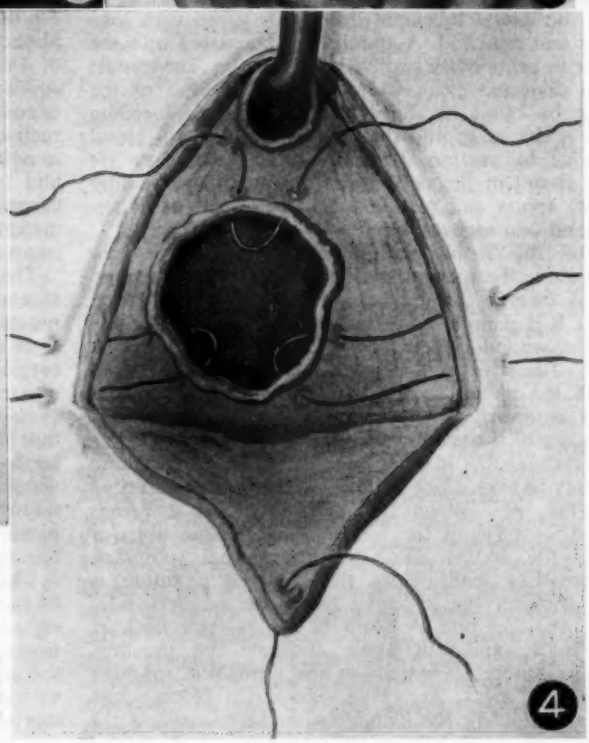


Fig. 1. Position of the patient on the perineal board. Note the horizontal position of the perineum.
Fig. 2. Incision of Denonvillier's fascia.
Fig. 3. Incision in the prostate.
Fig. 4. Diagramatic drawing of the sutures used in closure of the prostate. In actual practice the two lower sutures through the bladder neck are passed through the prostate more anteriorly.

to have several sizes of these as the distance between the tuberosities varies a good deal and also the depth of the prostate from the surface of the perineum.

The prostate continues to be held as far up in the wound as possible by an assistant, and the inverted V incision is now made cutting right down towards the midline on to the shaft of the long tractor (Fig. 3). This exposes the hyperplastic lobes and a clear plane of cleavage is opened up gently with a dissector. A suture of catgut is passed through the apex of the V-flap, clamped, and allowed to hang down pulling the V-flap open. Often no bleeding is encountered up to this stage of the operation, but at most three small bleeding points may require ligature. The blades of the long prostatic tractor are now closed and as this tractor is withdrawn, Young's short tractor is passed into the bladder through the opening which has just been made in the prostatic urethra. The blades are spread and the operator is now able to draw the prostate towards him. Using the plane of cleavage already opened between the hyperplasia and the prostatic tissue it is an easy matter to shell out the lobes in the same manner as in suprapubic prostatectomy. Scissors curved on the flat are useful to cut any resistant tissue. If the lateral lobes are joined by a thick posterior commissure both lobes and commisure may come away in one piece, but more commonly the lateral lobes are dislodged, seized with lobe forceps and removed. A spoon may be passed into the bladder to bring out a pedicled middle lobe. The middle lobe is dissected clean from the trigonal area of the bladder by blunt or sharp dissection. Some bleeding occurs at this stage and the field is kept clear of blood and urine by suction. If stones are present they are readily found in the dependent portion of the bladder with the spoon and removed. Small nodules of hyperplasia and odd tags are removed with a Luc forceps.

A No. 26F Robinson double-eyed catheter is now passed along the urethra and brought out of the wound when it emerges from the opening in the posterior urethra. It is clamped at both ends and the end emerging from the wound is held forward gently to serve as a tractor. Using a No. 4 Mayo needle a suture is passed through the tissues to the left of the edge of the cut urethra anteriorly. This suture is not passed through the mucosa of the urethra. It is now passed as a mattress suture through the bladder neck at twelve o'clock, and then back to take a bite on the right side of the starting point (Fig. 4). When this suture is tied it brings the anterior edge of the bladder neck to the anterior edge of the urethra close to the external sphincter. Still retracting gently with the catheter, a suture is passed through the prostatic tissue on the left side; then a mattress bite is taken in the bladder neck at five o'clock, and out again through the prostate. A similar suture is passed on the right side catching the bladder neck at seven o'clock. Blood clots are scooped out of the bladder with the spoon and the catheter is placed in position in the bladder. It is secured in this position with a catgut suture passed at the base of the frenum. The two haemostatic and apposition sutures previously passed at five and seven o'clock are now firmly tied. The suture passed through the V-flap in the prostate is now threaded and carried through the prostatic tissue just distal to the membranous urethra. When tied this suture brings the V-flap up into its original position. The edges of the V-flap are now closed with a continuous suture. The levator ani muscles are brought together with three or four No. 1 chromic gut sutures. This protects the anterior wall of the rectum and forms a layer of tissue between the rectum and the incised prostate. A piece of rubber dam is placed down to the incision in the prostate and brought out at one angle of the wound. The rest of the wound is firmly closed with a considerable number of interrupted mattress sutures of fine catgut, and the skin is closed with a subcutaneous suture of No. 1 chromatic gut.

THE RADICAL OPERATION

This is the only true prostatectomy. The other operations, suprapubic prostatectomy, conservative perineal prostatectomy, and trans-urethral prostatectomy, are misnomers. In the latter operations the hyperplastic tissue is shelled out of the prostatic bed in the same manner as a simple tumour is shelled out of the breast, and the prostate, which has been compressed into a thin layer, is left *in situ*. That is why infection may still persist in the prostate after the usual prostatectomy operation. In the radical operation the prostate is shelled out of its bed in the pelvic fascia. This false impression about prostatectomy arose from the clinical experience of surgeons enucleating the hyperplastic lobes by the suprapubic route. Anyone who has seen the prostate exposed by the perineal route or in a retropubic approach realises that the true prostatic tissue which is incised may be some considerable thickness ($\frac{1}{4}$ to $\frac{3}{4}$ of an inch) and one feels that if the terms 'true' and 'false' capsule, used when discussing prostatectomy, were discontinued, students and others would have a clearer impression of the pathological condition present.

The radical operation is reserved for such conditions as carcinoma of the prostate, chronic infection of the prostate with stones, tuberculosis of the prostate, etc. It is the only treatment which offers hope of cure in carcinoma of the prostate, and to have a reasonable measure of success it is essential that the diagnosis should be made as early as possible. Hinman advises that whenever carcinoma is suspected because of a hard nodule felt per rectum an exploratory incision should be made down to the gland and a piece of the nodule removed for a quick frozen section. If the suspicion is confirmed one should proceed to do a radical removal.

The incision and exposure of the posterior aspect of the prostate is exactly as described above. The prostate may be more difficult to clear as it may be adherent to the rectum. When exposed it is cleared right back to the upper edge and the fascia enclosing the seminal vesicles and the ampullae is divided horizontally along this edge. The plane of cleavage between the vesicles and the rectum is opened up. The prostate is separated from the pelvic fascia which encloses it laterally. The posterior urethra is cut across completely at the apex of the prostate, taking care to keep away from the membranous urethra and the external sphincter. The

long tractor is removed and the short tractor inserted. This pulls the apex down into the wound. The upper surface of the gland is freed from its attachments anteriorly as far as the bladder neck. The short tractor is removed and a sharp curved forceps of the gall-bladder type, or an aneurysm needle, is passed through the prostatic urethra and then anteriorly between the internal sphincter and the gland. This forceps is used to pull a tape through and this serves as an efficient tractor during the remainder of the operation. One does not apply lobe forceps in these cases as one does not wish to squeeze the gland. The junction between the gland and the bladder neck is divided with curved scissors and the trigone exposed. If part of the bladder neck is involved the incision is carried beyond it and the affected portion removed with the prostate. The trigone is cut across and elevated from the vesicles and ampullae. The ampullae are clamped as high as possible and ligated. The vesicles are dissected out by blunt and sharp dissection and can be entirely removed in most cases, but sometimes they may have to be cut across. The prostate together with the ampullae and vesicles and sometimes a portion of the bladder neck is removed in one mass. The bladder neck is now stitched to the urethra over a catheter with a number of interrupted sutures of chromic gut. A water-tight junction is not possible. The levator ani muscles are brought together, a roll of rubber dam the thickness of a cigarette is inserted and the wound closed as in the conservative operation.

After operation the catheter is left to drain by gravity into a small bottle. It is not irrigated unless it becomes blocked. I am worried if at the evening visit I do not find the patient having his supper or reading the paper. Now that so much prostatic surgery is followed by urethral catheter drainage the need for an efficient syringe to deal with any obstruction by clots is obvious. The Toomey evacuator is invaluable for this purpose and is adapted for use either with a rubber catheter or the cystoscope. The small rubber dam drain is loosened on the second day and removed on the third day. Thereafter a smaller drain is kept in the angle of the wound to keep the skin open. Liquid paraffin is given daily and on the fourth night cascara is given. On the morning of the fifth day 200 c.c. of olive oil is instilled into the rectum with a soft catheter. The bowels usually act shortly afterwards. A Seidlitz powder may be necessary in some cases.

The patient may be got out of bed when thought fit. There is no objection to doing this on the day following operation. The catheter is removed on the eighth to tenth day. If the perineal wound is not healed sufficiently leakage may occur. This often stops spontaneously after a day or two, but if it does not, the catheter should be put back for a few days. In about 80% of cases the wound remains dry after the catheter is removed.

REVIEW OF 596 CASES OF PROSTATIC ENLARGEMENT IN PRIVATE PRACTICE

Operation — 396
No operation — 200

Those not operated on were cases in which, although prostatic hyperplasia was present, there was no urinary difficulty or residual urine. It should be emphasised that there is no need to operate because a large prostate is found on rectal examination. Some of these cases were found to have hyperplasia during routine investigation for other genito-urinary conditions; others were relieved of urinary difficulty by occasional prostatic massage and sometimes by injections of Testosterone Propionate.

Number of Operations and Mortality

Private Cases *Operation*	*No. of Cases*	*Per cent. of Total*	*Died*	*Per cent.*
Trans-urethral resection ..	215	54.3	3	1.4
Conservative Perineal Prostatectomy	147	37.1	3	2.0
Radical Perineal Prostatectomy	11	2.8	4	36.3
Suprapubic Prostatectomy ..	17	4.5	3	17.6
Retropubic Prostatectomy ..	1	0.2	1	100.0
Permanent Suprapubic Cystostomy	5	1.2	0	0.0
Total	396	100.1	14	3.5
Addington Hospital				
Trans-urethral resection ..	187	57.3	2	1.1
Conservative Perineal Prostatectomy	119	36.5	7	5.8
Radical Perineal Prostatectomy	4	1.2	0	0.0
Suprapubic Prostatectomy ..	12	3.7	3	25.0
Retropubic Prostatectomy ..	4	1.2	0	0.0
Total	326	99.9	12	3.7

COMMENT

It will be seen that of these 396 cases requiring surgical relief only 5 cases (i.e. 1.2%) were dealt with by permanent suprapubic cystostomy. Exact hospital figures are not now available but the proportion is not appreciably higher. These figures compare favourably with those from other sources and the mortality has been less since antibiotics became freely available in 1946. The last 107 cases of conservative perineal prostatectomy in private practice have been operated on without a death. The average age for the conservative operation was 70.5 years. The youngest was 54 and the oldest 85 years. Nine of the 147 cases were octogenarians. The average age for the radical operation was 62 years. Exact figures for stay in hospital are useless in giving any idea of the post-operative course. Both hospital and private patients are influenced by personal considerations. We usually operate about a week after admission and most patients are fit to leave in 14 to 16 days after operation. Patients are kept under observation thereafter until healing is complete, i.e. until the urine is microscopically clear.

Thomson Walker (1938) gives no encouragement to the surgeon who may be interested in the perineal operation and even the Textbook of Genito-Urinary Surgery (1948) does not give a good description of the

modern operation. The three sequelae described as common are (*a*) perineal fistula, (*b*) incontinence and (*c*) recto-urethral fistula. In this series we had two cases of perineal fistula. One was a small fistula through which a few drops of urine escaped from time to time. This tract was excised after some months and there was no further trouble. The second case developed a scrotal fistula secondary to a peri-urethral abscess. This was readily excised. Some cases have incontinence on straining for a short time after operation. This seldom exceeds 4 weeks. Many have good control immediately the catheter is removed. Now that closed prostatectomy is common and patients mobilised early, this temporary dribbling will be noticed more often. It is treated by irrigating the bladder by Janet's method and getting the patient to practise stopping and starting as he empties the bladder—a 'Stop and Go' irrigation. In only one case did the patient fail to get complete control. This man had been catheterising himself for six years and had the largest prostate I have seen. He was quite dry at night but got along satisfactorily with a Cunningham clamp in the day time.

There were two cases of recto-urethral fistula. The first patient had a radical operation for advanced carcinoma and developed a fistula when he was given an ordinary enema by mistake on the seventh day. This patient died. The second was a hospital patient who developed an abscess deep in the wound. Although this discharged he developed a fistula about the tenth day. A similar condition was described by Mombaerts (1936) after suprapubic prostatectomy. A colostomy was done and later a repair as devised by Young (1926). He made a good recovery. There was one case of injury to the rectum during exposure. This was closed and the wound allowed to heal. A suprapubic prostatectomy was done later. There was one case of a small recto-perineal fistula, without involvement of the urethra. This finally healed spontaneously. It is difficult to get exact figures about the sexual power of these men after operation. When the average age is 71.1 years one cannot expect too much. It is our impression that if a patient is virile before operation he can expect to recover his sexual power, but if not any operation may prove the last straw.

CONCLUSION

It is our impression that perineal prostatectomy is still superior to all others from the point of view of good exposure and completeness of the operation. We do not feel that the fears of incontinence and fistulae are justified. We believe, however, that this is not an operation for the general surgeon who does an occasional prostatectomy, but is an operation which should be practised by every surgeon who does any considerable amount of genito-urinary work. Every case of prostatic obstruction should be treated by that method which will give the patient relief with the least strain on the patient. The operation is not technically difficult, but it is not an easy operation as is suprapubic prostatectomy. It is only in cases of carcinoma or fibrosis that the operator finds himself in difficulties when performing suprapubic prostatectomy, and he has only himself to blame as the diagnosis should have been made beforehand. Like every other operation it should be learned under the guidance of a practising surgeon, but if this is not possible there is no reason why any competent urologist should hesitate to take it up. There may be difficulties to start with, but these will soon lessen, and the operator will have the satisfaction of having added an extremely useful surgical approach to his technique. If the urologist is confident about this approach it gives him the opportunity to deal radically and successfully with such conditions as tumours of the prostate, stones in the prostate and surgical conditions of the seminal vesicles. With the introduction of Stilboestrol and orchidectomy in the treatment of carcinoma of the prostate, radical prostatectomy should be confined to those cases where the condition can be diagnosed while still confined within the anatomical capsule. As pointed out by Hugh Young quite recently this is still the only hope of cure the unfortunate patient has got. Until the introduction of these new methods we believed with Hinman that the patient got a better clinical result with radical perineal prostatectomy than with any other method, even although the removal might be incomplete and there was no hope of a cure. The unduly high mortality for our cases of suprapubic prostatectomy is accounted for by the fact that there has always been some special reason for using this approach. When Mr. Millin published his paper about the retropubic approach I thought that with our experience we would find it easy. After all, in the perineal approach one works through the lower surface of the prostate while in the retropubic operation one carries out the same procedure through the upper surface. I have done some ten retropubic operations at various hospitals (not all shown above) with one death, but have gone back to the perineal route because my post-operative results are better. I found no technical difficulty in carrying out the operation. At the moment I do not think it is generally realised that in many cases quite a lot of tissue requires removal at the posterior commissure and under the trigone. The Luc forceps which we use for this purpose would probably be helpful in the Millin exposure. The obliteration of the cavity from which the lobes have been removed, as occurs in the perineal operation described above, is important. This is not accomplished satisfactorily in any other approach. While the mortality figures for the retropubic operation are low compared to those previously given for suprapubic prostatectomy, it must be remembered that only since the war have antibiotics become freely available and their influence on genito-urinary work is considerable. The enthusiasm with which the retropubic operation has been received is a great tribute to Mr. Terence Millin and I think the retropubic operation will replace transvesical prostatectomy, but only time will tell whether among urologists, it is preferable to the perineal approach.

In conclusion I wish to thank Mr. L. Baumann who assisted with the operation and after-care of many of these cases and who reviewed the many records for the necessary data.

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Suid-Afrikaanse Tydskrif vir Geneeskunde

EDITORIAL

HEALTH SERVICES, TUBERCULOSIS AND THE WELFARE STATE

It is now two years since the National Health Service was introduced into Great Britain and the medical profession is gradually getting sufficient objective information to take stock of the situation and to make unbiassed judgments of what, everybody will agree, is a great social experiment.

A particularly suitable method of checking the organization of a centrally controlled State service is afforded by tuberculosis work. With this object in view the National Association for the Prevention of Tuberculosis recently invited a number of British authorities on tuberculosis, including medical officers of health, medical superintendents, thoracic surgeons, clinical tuberculosis officers and chest physicians, to give their opinions on the experience of the first two years of the National Health Service, with special reference to whether tuberculous patients and their families are better or worse off than in June, 1948; in what ways the tuberculosis service requires improvement, and whether the preventive aspect is properly secured in the present scheme.

The views of 10 of these authorities, published in the June issue of the *Napt Bulletin*, comprise an interesting preliminary report.

The general impression is that while the new service offers greater facilities for, and has already done much to improve the treatment of tuberculous cases, preventive and after-care work is, if anything, less satisfactory than before—chiefly owing to the division of the functions of diagnosis and treatment, and prevention and after-care, between separate authorities. Valuable suggestions for remedying this defect are the formation of effective Tuberculosis Committees at regional level, and the retention of the Tuberculosis Dispensary or Chest Clinic as part of the *local* Health Department, with the addition of specialist help when required.

The work in connexion with tuberculosis is only one, though a very important aspect, of the problems that arise with increasing State control of medical services.

The study of these 24 months of the National Health Service in Great Britain should be sufficient, however,

VAN DIE REDAKSIE

GESONDHEIDSDIENSTE, TERING EN DIE WELSYNSTAAT

Dit is nou twee jaar sedert die Nasionale Gesondheidsdiens in Groot-Brittanje ingestel is en die mediese beroep kry geleidelik genoeg objektiewe inligting om die toestand in oënskou te neem en om 'n onpartydige oordeel te vel oor wat, soos almal sal saamstem, 'n groot maatskaplike proefneming is.

'n Besondere geskikte metode om die organisasie van 'n sentraalbeheerde diens van die Staat te toets, word deur werk in verband met tering gebied. Met hierdie doel voor oë het die *National Association for the Prevention of Tuberculosis* 'n aantal Britse gesaghebbendes oor tering, onder ander mediese gesondheidsbeamptes, mediese superintendente, borssnykundiges, kliniese teringbeamptes en geneeshere van borskwale gevra om hulle menings te gee oor die ondervinding van die eerste twee jaar van die Nasionale Gesondheidsdiens, met spesiale verwysing na die feit of teringpasiënte en hulle gesinne beter of slegter daaraan toe is as in Junie 1948; in watter opsigte die teringdiens verbetering vereis en of die voorbehoedsaspek behoorlik deur die huidige skema gedek word.

Die menings van hierdie 10 gesaghebbendes wat in die Junie-uitgawe van die *Napt Bulletin* uitgegee is, maak 'n interessante voorlopige verslag uit.

Die algemene indruk is dat hoewel die nuwe diens groter geriewe vir die behandeling van teringgevalle bied en reeds baie gedoen het om dit te verbeter, die voorbehoedwerk en nasorg eerder minder bevredigend is as voorheen—hoofsaaklik as gevolg van die verdeling van die funksies diagnosering en behandeling, voorbehoedwerk en nasorg, tussen afsonderlike owerhede. Die vorming van doeltreffende Teringkomitees volgens landstreke en die behoud van die Teringapteek of Borskliniek as deel van die *plaaslike* Gesondheidsdepartement met die toevoeging van gespesialiseerde hulp wanneer dit nodig is, is waardevolle wenke om hierdie tekortkoming te verhelp.

Die werk in verband met tuberkulose is slegs een van die probleme, hoewel 'n uiters belangrike, wat voortspruit uit toenemende Staatsbeheer oor mediese dienste.

Die bestudering van hierdie 24 maande van die Nasionale Gesondheidsdiens in Groot Brittanje behoort egter toereikend te wees om die behoefte aan langsame haas in die geval van hierdie kwessies, vir die mediese

to urge upon the medical profession as well as the Provincial Administrations in South Africa the need to hasten slowly in these matters.

Recent reports of the insufficiency of beds and nurses, and headlines in the daily newspapers such as 'Free Hospital Plan is Failing' and 'Durban Wards May Close: Too Few Nurses to Carry on' (*Cape Argus*, 1 July 1950) are strong pointers to the mistakes which we ourselves may be making in this country.

Our needs are not so much a State service as considerable improvements in existing services. These can only be brought about effectively if they are securely and broadly based on an adequate number of hospital beds as well as trained staff. If this foundation work is attended to thoroughly and if health and medical services evolve slowly but surely from such a beginning, the country will be in a far better position to decide to what extent the State should assist in this task. Increasing centralized control of hospital and medical services can only prosper if it preserves the enthusiasm and the activity of many able groups of independent citizens active at the periphery of the frame-work of the State. This is particularly important in connexion with preventive services and should be respected as a fundamental principle of sound organization.

Careful analysis of the situation in the United Kingdom has revealed not only that the expense of a State service is great, but also that it may climb to unforeseen and unpredictable figures. These factors should weigh with us especially in this country where so few must pay so much for the services of so many. It would be disastrous if the excellent work which has been and is being done by the State as well as by private organizations in respect of tuberculosis as well as many other aspects of disease, should be jeopardized by precipitate and ill-timed legislative action.

The vast health problems with which we are faced will not be solved nor will hospital beds and trained nurses be created merely by an academic ukase instructing a Government Printer to print an Ordinance.

beroep sowel as die Provinsiale Administrasie in Suid-Afrika te beklemtoon.

Die jongste verslae oor die ontoereikendheid van beddens en verpleegsters en opskrifte in die dagblaaie soos *Free Hospital Plan is Failing* en *Durban Wards may Close: Too Few Nurses to carry on* (*Cape Argus*, 1 Julie 1950) is betekenisvolle vingerwysings na die foute wat ook ons in hierdie land mag begaan.

Ons het nie so seer behoefte aan 'n diens deur die Staat verskaf nie as aansienlike verbeterings aan bestaande dienste. Dié kan slegs doeltreffend tot stand gebring word indien hulle op 'n vaste en breë grondslag gegrond word op 'n toereikende aantal hospitaalbeddens en opgeleide personeel. Indien daar deeglike aandag aan hierdie fondamentswerk gegee word en indien gesondheids- en mediese dienste stadig maar seker uit so 'n begin ontwikkel, sal die land baie beter in staat wees om te besluit in watter mate die Staat in hierdie taak behulpsaam moet wees. Toenemende gesentraliseerde beheer van hospitaal- en mediese dienste kan slegs gedy indien dit die geesdrif en bedrywigheid van vele begaafde groepe onafhanklike burgers behou wat aan die buiterand van die Staat se raamwerk optree. Dit is veral belangrik in verband met die voorbehoeddienste en behoort gerespekteer te word as 'n fundamentele beginsel van gesonde organisasie.

Sorgvuldige ontleding van die toestand in die Verenigde Koninkryk het aan die lig gebring dat onkoste in verband met 'n diens deur die Staat verskaf nie net groot is nie, maar dat dit ook tot onvoorsiene en onvoorspelbare bedrae kan styg. Hierdie faktore moet behoorlik deur ons in ag geneem word, veral in hierdie land waar die weiniges so baie vir die dienste van so vele moet betaal. Dit sou noodlottig wees indien die uitstekende werk wat deur die Staat en deur private organisasies ten opsigte van tering sowel as baie ander aspekte van die siekte gedoen is en gedoen word, in gevaar gestel word deur onbesonne en ontydige wetgewing.

Die ontsaglike gesondheidsprobleme waarvoor ons te staan kom, sal nie opgelos word en hospitaalbeddens en opgeleide verpleegsters sal nie uit die lug val, bloot as gevolg van 'n akademiese opdrag aan die Staatsdrukker om 'n Ordonnansie te druk nie.

ANNOTATION

DEVELOPMENTS IN THE PHARMACEUTICAL INDUSTRY IN SOUTH AFRICA
SCHERAG (PTY.), LTD.

The successful launching of production of Schering medicinal products in the new Manufacturing Laboratory at 127, Anderson Street, Johannesburg, has aroused considerable interest in South African Pharmaceutical circles. This most up-to-date Laboratory adds considerable assets to available manufacturing facilities in the Union and employs local labour, raw materials and packing items.

Capital for this new venture is of South African and American origin and the very close technical and scientific relationship which exists between Scherag (Pty.), Limited, in Johannesburg and Schering Corporation, Bloomfield, New Jersey, U.S.A., ensures that the established high quality of Schering products is maintained and that the many benefits of Schering's research programme are made available in Southern Africa.

Scherag's new Manufacturing Laboratory is now producing a very considerable part of the fine medicinal products previously imported from the U.S.A. Pharmaceutical and hormone specialities for which Schering have a world reputation are now *Made in the Union of South Africa*. Hormone injections and tablets—Oreton (Testoviron), Pranone (Proluton), Cortate, Profoliol (Progynon) form a large part of production and other preparations such as Veramon, Atophan, Travesan (Vasano) and Sulamyd (Albucid) receive their share of manufacturing time. Newer products resulting from Schering's research are the antihistaminics, Chlor-Trimeton and Trimeton and a range of hormone buccal tablets for sublingual administration, the therapeutic efficacy of which is almost the same as that achieved by injection. The Laboratory is a model of its kind and for descriptive purposes is divided as follows:—

Control Laboratory. Here, highly-trained scientific personnel

carry out the most exacting control tests and analyses on basic and active raw materials, intermediate manufactures and final products before packing for sale. Strict sterility tests are carried out on every sterilized batch of injection solutions, and the most recent approved methods are in use for this work; pH determinations and Soxhlet extractions form an important part of analytical work and no effort is spared to ensure that the product for sale is of the established high Schering quality. Precision ovens and incubators are features of the equipment.

Tablet Manufacturing Department. A wide range of tablets is manufactured under the control of a highly experienced technician and, in association with Schering Corporation, constant improvement of products and techniques is sought.

Apparatus is of latest design from the Hobart four-speed mixer to the tablet machines which compress the final tablet, and a special Fitzpatrick Homoloid Machine is probably the only one of its kind, for comminution and granulation combined, in South Africa.

Drying is conducted under thermostatically-controlled conditions—an important factor as specially developed tablet bases are used for several Schering tablets.

Ampoule Department. Hormone and other injections have for long been Schering preparations with a considerable reputation amongst members of the Medical Profession, and this Department is, therefore, one upon which a vast amount of thought has been expended. The experience of Schering Corporation was enlisted and as a result the ampoule unit is a model of specialization incorporating many novel features.

Ampoules and multiple-dose vials are washed in a special apparatus using filtered distilled water and compressed air, and are then dried and sterilized in a thermostatically-controlled precision oven in stainless steel covered racks.

Filling of bulk injections is carried out in remarkably accurate yet simple ampoule fillers and sealing is done with controlled burners using Venturi mixers for gas/air. Following this, the ampoules or vials are either autoclaved or otherwise sterilized and finally examined individually under a strong light with magnification. By these means defective ampoules and those which contain any particle whatsoever are rejected and only perfect injections are submitted for the stringent sterility and analytical tests before sale.

Special care is taken that work in the Ampoule Department is carried out under rigidly controlled conditions and daily swabbing with suitable antiseptic is a matter of routine.

General View of the Ampoule Department

Packing Department. Final packaging is done in a well-equipped department and proved methods of checking and control are strictly observed.

General. Lighting throughout is by means of fluorescent tubes and a colour scheme of white, washable paint combined with a fresh turquoise colour on tables and fixtures ensures most pleasant working conditions and freedom from strain for the personnel. Piping for various services—gas, electricity, compressed air, water and steam—is identified throughout the Unit by means of different colours. This scheme was based on the proposals of the South African Bureau of Standards.

A CONSIDERATION OF RECENT SURGERY OF OSTEOARTHRITIS OF THE HIP JOINT*

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Osteoarthritis of the hip is one of the oldest known scourges of mankind. It produces disability through:

(*a*) Pain in the hip or knee;
(*b*) Limitation of movement, deformity and limp;
(*c*) Secondary or associated backache.

The most important single factor is pain. A patient with a good range of movement and pain is more disabled than another with a stiff hip or a limp but no pain. Treatment must therefore be concerned primarily with the relief of pain. In order to ensure this, we need sometimes to increase stiffness by arthrodesing the joint; in other cases, especially if the opposite hip is involved or the patient also suffers from arthritis of the back, we must increase movement by arthroplasty and we should choose the method which promises maximum comfort and stability.

In the age-long attack on this problem our weapons have ranged from massage with goat's milk to deep X-ray and artificial vitallium joints. In this century, manipulation, arthrodesis, anthroplasty and osteotomy have been the surgical stock-in-trade. It is not my purpose to elaborate these well established procedures, but to comment on several new methods which have been devised and advocated during the last decade. These include:

(i) the intra-articular injection of lactic acid;
(ii) obturatory neurectomy and complete denervation of the hip joint;
(iii) the one-stage method of arthrodesis of Dickson and Willien;
(iv) the Smith-Petersen mould arthroplasty, and
(v) excision of the femoral head and neck as described by Girdlestone and Batchelor.

It is timely that the advantages and shortcomings of each method should be assessed.

*This paper was read at the Medical Congress of the Association held at Cape Town in September 1949.

The results of treatment must be weighed against the cost to the patient—cost in severity and shock of the operation; in the length of post-operative recumbency; and most important, in the elderly, the period of immobilisation in plaster. The effect on the function of other joints, such as those of the lower back and the homo-lateral knee, must also be considered.

Intra-articular Injection of Lactic Acid. The simplest of the new forms of treatment is the injection of lactic acid and procaine. Acid sodium phosphate or acetylcholine may be used instead. The injection is relatively painless and the patient need not rest up at all. I find it useful only when the hip still has adequate joint space radiologically and a fair range of movement clinically. The results are disappointing in the stiff, painful hip. At this stage it is reasonable to say that in this method we have a most useful palliative. I have patients who are comfortable two years after a course of these injections (Fig. 1).

Manipulation under General Anaesthetic. Manipulation is also a valuable aid in the early stages of the disease, that is, when the extremes of movement in one or two but not in all directions become painful. The manipula- should be gentle and designed to put the joint firmly through one full range of movement only. The effect is not always permanent and usually the patient requires further and more radical treatment later (Fig. 2).

Denervation of the Hip Joint. Twelve years ago, Camitz suggested obturator neurectomy on the grounds that a large number of hip joints received their only sensory supply through this nerve. His advice was followed by Tavernier who reported relief of pain in 38% of cases. Tavernier and others now suggest that the hip should be completely denervated by also dividing the branches from the femoral and sciatic nerves. By this means they claim successful results in 90% of patients. This operation has the advantage that it does not shock the patient, who need stay in bed afterwards for at most ten days. Convalescent exercises to restore abduction and extension are necessary.

In the successful cases pain is relieved but destruction may increase. Neuropathic disorganisation of the joint has been reported. I have not done a complete denervation of the hip but the three cases which were subjected to obturator neurectomy did not obtain relief, and had to submit to further operation.

The Bifurcation Osteotomy of McMurray. The bifurcation osteotomy described by Professor T. P. McMurray of Liverpool in 1935 has advantages. Success is due to two factors. Firstly, it short circuits the line of weight-bearing directly from the acetabulum through the head to the shaft of the femur. The deviation through the neck of the femur is no longer necessary. Secondly, it brings fresh articular cartilage into the main line of weight-bearing. The operation itself is short and causes little shock. Skill is required to prevent the shaft from slipping in front or behind the line of the head. It is indicated only in cases in which a fair range of adduction is possible. In most cases, properly chosen and properly executed, it produces a stable, comfortable hip with sufficient movement to enable the patient to climb up and down stairs. Its main disadvantages are that the post-operative course requires three months in a plaster spica and it is often difficult to recover free movement of the knee joint. Relief of pain is not always permanent.

Arthrodesis of the Hip. Arthrodesis of the hip is suitable for patients with mobile backs. It is ideal for the younger patient with mon-articular arthritis. It is the most reliable procedure for the relief of pain, leaves little deformity but tends to increase backache and, of course, limits all movement. Watson-Jones claims that in cases where the backache is aggravated by spasm of muscles acting on the affected hip, an arthrodesis by relieving spasm may indeed alleviate backache. There is no doubt that a patient with a successful arthrodesis of the hip is not severely handicapped. He can walk long distances and even take part in the milder games. It is always difficult to put on a sock or tie the shoe-lace on the affected side.

Hitherto, the chief disadvantage of arthrodesis of the hip by any method has been the immobilisation of the patient in Plaster of Paris for three months. With a stiff hip it is even more difficult subsequently to mobilise the knee joint. A most satisfactory method was described by Watson-Jones who suggested a two-stage operation in which the joint is excised at the first, and a long triflanged nail is inserted across the joint a fortnight later. He proposed the two-stage operation to reduce the shock produced by the complete procedure.

Dickson and Willien in 1947 described a simplified one-step operation which successfully obviates some of the disadvantages of previous methods. Through the ordinary Smith-Petersen approach the joint is opened, and without dislocation of the head the contiguous surfaces of the femur and the acetabulum are laminated with a curved chisel. A small bone graft cut locally from the ilium is slotted across the joint line. A long nail is immediately inserted through a separate short trochanteric incision and should reach well into the ilium. The patient need not be immobilised in a plaster spica, and between four and six weeks later is allowed up on crutches. Weight-bearing is not permitted until there is sound bony ankylosis. There is no question of stiffness of the knee.

Figures 3 to 6 are the X-rays of a young man who sustained a fracture dislocation of the hip in a motor accident (see illustrations at the end of this volume).

In a suitable case this is a satisfactory and unexacting procedure.

Smith-Petersen Vitallium Mould Arthroplasty. This operation requires skill and, above all, most expert post-operative care and treatment. The originator and his school had good results but this has not obtained generally. A disturbing feature has been that in many cases after a comfortable and useful range of movement for 18 to 24 months, the hip has become painful and often stiff again. In 1945 I asked a leading British orthopaedic surgeon his opinion of the cup arthroplasty and it was this factor that prompted his reply, which was:

> 'Who are these giants who can operate on the same hip joint two or three times when most of us hesitate to operate once?'

In successful cases the patient recovers a stable hip with a good painless range of movement. He should be able to walk without a limp. He must, however, usually be prepared to spend six months of strenuous effort to obtain such a result.

The outcome in some cases is dramatic. In most it is said to be fair, but in some it is frankly disappointing. Although I have not used the method myself I have not been impressed by the results I have seen. In two of these cases I have had to remove the cup and follow this by excision of the femoral head and neck.

Fig. 1. This type of hip is unsuitable for intra-articular injection. The joint space has disappeared and clinically the hip is painful and rigid.
Fig. 2. This patient had pain at the limits of rotation and abduction. Manipulation under a general anaesthetic gave her complete comfort for nearly two years.

Excision of the Femoral Head and Neck. In 1938 Professor Girdlestone of Oxford advised the British Orthopaedic Association of his success in the treatment of osteoarthritis of the hip by excision of the head and neck of the femur. More recently Batchelor published his results after operating on 34 patients. He states that it is 'a simple procedure, well borne by the elderly, which effectively relieves pain and restores movement and leaves undisturbed the attachment of the hip muscles'. He claims that a free range of painless movement is practically assured. The weakness of treatment by simple excision of the head and neck of the femur is that the false hip joint is potentially unstable. Batchelor contributes the additional advice that if the patient wears a calliper for some months after the operation, or more certainly if a sub-trochanteric osteotomy of the Schanz type is performed, this instability can, to a large extent, be overcome.

I am most impressed with the results of this procedure. I find that the excision of the head and neck is not accompanied by as much shock to the patient as one might expect, and in the elderly this is all that need be done. Post-operatively, the patient is put on skeletal traction by a Steinmann's pin through the tibial tuberosity and movement can be initiated within a few days. Within two or three weeks the patient sits up in bed quite comfortably and after ten or twelve weeks can walk. Pain on movement has disappeared dramatically. The disadvantage of a long convalescence in a plaster spica is not necessary. It takes a little time for muscle power to recover. The Trendelenburg dip is not nearly as marked as one would expect. It is due, I think, more to slight shortening than to displacement of the upper femoral shaft. There are none of the disabilities in sitting or in dressing—and especially in putting on shoes and socks—which are the associates of an arthrodesis of the hip.

Through a Smith-Petersen approach, the capsule is opened and bone levers are placed behind the neck of the femur. The head of the femur is dislocated from the acetabulum before the neck is divided flush with the trochanter. Care is taken to leave a smooth surface. If it has been decided to add an osteotomy, this may be done immediately from the front by prolonging the lower end of the Smith-Petersen incision. Otherwise the osteotomy is performed three weeks later through

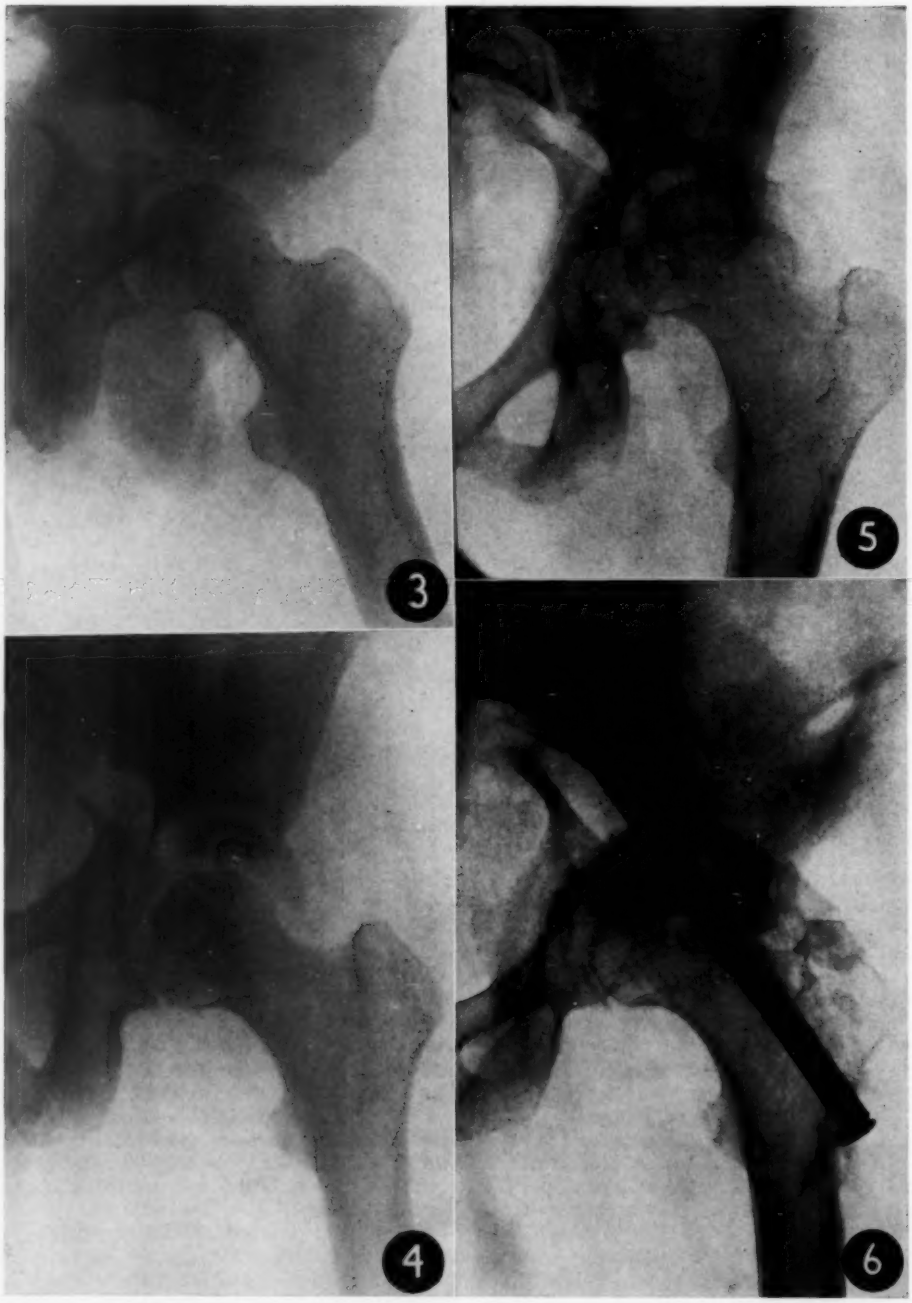


Fig. 3. The extent of the injury.
Fig. 4. The maximum correction obtained by manipulation and traction.
Fig. 5. Some months later marked osteoarthritis had developed.
Fig. 6. Six months after operation, sound bony ankylosis. The patient walks, drives a car, sea bathes and dances without discomfort.

Fig. 7. Osteoarthritis in a patient aged 69 years. Intractable pain in the hip.
Fig. 8. After excision of the femoral head and neck and sub-trochanteric osteotomy.
Fig. 9. See text.

a lateral or postero-lateral incision. The osteotomy should be cuneiform in type and at an angle of some 20 to 30 degrees according to the inclination of the pelvis and the amount of shortening. The fragments are held by a vitallium plate and screws, the angle of the plate having previously been prepared. The patient is sent back to bed on skeletal traction through a Steinmann's pin with the pull over a pulley at the foot of the bed. Movements and exercises are started as soon as the patient is comfortable. If osteotomy has not been performed the patient can walk in a calliper in eight to ten weeks. The calliper must be worn until the fibrous tissue is strong enough to prevent the femur sliding upwards on the pelvis during weight-bearing. After an osteotomy, traction should be continued for twelve weeks and the patient walks as soon as the osteotomy unites. An average range of flexion of 75 to 90 degrees can be expected.

This procedure is most useful for patients in whom it is desirable to relieve pain and at the same time maintain a mobile hip; that is, for the older person and for the patient with a stiff back or involvement of the opposite hip. Once the operation is over the convalescence is not strenuous, so it has a wider application than one would at first consider. Movement of the knee is not lost during treatment.

Figures 7 and 8 are X-rays of a woman of 69 years of age who suffered intractable pain in her hip. Movement had almost disappeared but even turning in bed caused acute discomfort. She could not put foot to the ground. Obturator neurectomy brought no relief and indeed radiological degeneration of the hip joint seemed to be accelerated after this operation. Excision of the head and neck and osteotomy and plating were performed in two stages. She now walks with little discomfort and with a stable hip. There is surprisingly little 'dip'.

UMI

Fig. 9 is the picture of an unsound ankylosis of the hip following infective arthritis. In this case the infecting agent was typhoid fever which he suffered as a youth. He is now 39 years old and was severely disabled. He could not sit for any length of time without pain, and walking had become a burden. The alternatives were arthrodesis or excision of the head and neck. I chose the latter and three weeks after the operation he could sit up comfortably—for the first time in his adult life.

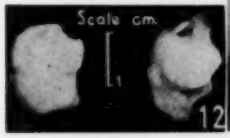
Figs. 10 and 11 are the X-rays of a woman of 66 with increasing disability due to arthritis of the hip.

Intra-articular injection of lactic acid is of help in the mobile hip with pain, and for those patients for whom operation is inadvisable for other reasons.

The one-stage method of Dickson and Willien reduces the problems of *arthrodesis* and is most often indicated for the patient who is otherwise fit and supple but who suffers a disabling mon-articular arthritis of the hip.

Excision of the femoral head and neck does not shock the patient as much as might be expected and is the answer to many painful, stiff hip joints where other factors make it desirable to increase the range of movement.

Fig. 10. See text.
Fig. 11. See text.
Fig. 12. The loose bodies removed from the hip shown in Figs. 10 and 11.



She had lost practically all movement except some 40 degrees of flexion extension. There was fixed flexion adduction deformity. She also gave a history that the hip sometimes locked causing her severe cramp.

When the head and neck were excised—and although the X-rays give no indication of their presence—two cartilaginous loose bodies, the size of hazel nuts, were found lying in the joint between the head of the femur and the acetabulum (Fig. 12). It is quite certain, therefore, that no other measure except arthrodesis would have relieved her pain—and a woman of 66 would not tolerate arthrodesis well.

CONCLUSION

The surgery of osteoarthritis of the hip joint has been reinforced by several new procedures. Three of these are an improvement on older methods and are recommended in suitable cases.

REFERENCES

1. Waugh, W. Grant (1938): Lancet, **1,** 487.
2. Waugh, W. Grant (1945): British Medical Journal, **1,** 873.
3. Crowe, H. Warren (1944): Lancet, **1,** 563.
4. Camitz: *Quoted by* Tavernier.
5. Tavernier, L. (1946): Lyon Chir., **41,** 45.
   Tavernier, L. (1946): Rev. d'Orthop., **32,** 109.
   Tavernier, L. (1947): Rev. d'Orthop., **33,** 96.
6. Luzuy, M. (1945): Mem. Acad. de Chir., **71,** 221.
7. Papin, E. and Lafargue, P. (1945): J. de Med. de Bordeaux, **121-122,** 330.
8. Papin, E. (1946): Rev. du Rhum., **13,** 202.
9. McMurray, T. P. (1935): J. of Bone and Joint Surg., **22,** 716.
10. Watson-Jones, R. (1938): J. Amer. Med. Assoc., **110,** 278.
11. Dickson, J. A. and Willien, L. J. (1947): J. of Bone and Joint Surg., **29,** 687.
12. Smith-Petersen, M. N. (1939): J. of Bone and Joint Surg., **21,** 269.
    Smith-Petersen, M. N. (1948): *Ibid.*, **30,** B. 59.
13. Batchelor, J. S. (1948): Post Graduate Medical Journal, May.

PROCEDURES IN THE CONTROL OF TUBERCULOSIS

THE PRACTICAL APPROACH 5: THE ACTION FRONT

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The Public Health Act in South Africa is dated 1919. It represented up-to-date thought on the Public Health at that time. Unfortunately time does not stand still and to-day's truth is often to-morrow's falsehood.

The Public Health Act in South Africa, like its English counterpart in 1875, was designed to protect the public from infection. It was based on the concept of disease caused by bacteria, the concept of Pasteur, Lister and the great bacteriological school of the Victorian age. Medicine has undergone fundamental changes and the psycho-social medicine of our time differs from the simple germ therapy of the 1919's. We now realize that although a particular organism is associated with a particular disease, there are many other factors which are necessary for infection to become disease.

Although in 1919 tuberculosis was considered a problem of tubercle bacilli causing tuberculosis, to-day we are very uncertain of our ground in this particular disease state.

In the succeeding paragraphs I list some of the questions which still remain unanswered about tuberculosis.

1. Of the people infected with tubercle bacilli, why do some develop manifest tuberculous disease and most show only a condition of altered sensitivity, evidenced by a positive tuberculin reaction? This is the fundamental and unanswered problem of tuberculosis.

It is also very difficult to tell when disease stops and only a positive tuberculin reaction remains.

2. Is resistance to tuberculosis racial, familial or individual or combinations of the above? If resistance were racial only, why is the incidence of disease so high and the type so florid in the Egyptians and the Chinese, where it has been present for thousands of years?

3. How can resistance to tuberculosis be measured?

4. How can resistance be increased? B.C.G., vole vaccine, diet?

Is the resistance of an individual with a healed primary complex greater than that produced by B.C.G.?

5. Is active tuberculous disease due to an exacerbation of an endogenous focus or is it caused by exogenous re-infection?

6. What is the effect of repeated infection (say in overcrowded surroundings or hospitals): (a) on a tuberculin negative individual; (b) on a tuberculin positive individual?

7. What is the exact role of diet in tuberculosis? There has been no volume of scientific proof that diet plays a *certain* role in tuberculosis.

8. What is the effect of housing, i.e. overcrowding and the opposite, in tuberculosis?

9. What part does bovine tuberculosis play in South Africa in human disease? Only three cases of bovine infection in humans have been reported to date.

10. If different colonies of tubercle bacilli differ in virulence, can this be measured?

11. What is the exact mode of action of antibiotics and chemotherapeutic substances in tuberculosis?

12. (a) What is the true rationale of so-called collapse therapy: artificial pneumothorax, pneumoperitoneum, thoracoplasty?

(b) What part does resection of diseased tissue play?

To be certain in our control of tuberculosis we ought to have an answer to all these questions.

However, we feel that the control of tuberculosis should be a national matter and that tuberculosis should be recognised as a disease, not of the lungs, but of the whole human body.

Therefore, our Public Health Act should be re-stated in terms of modern thought.

1st. The state should assume primarily the responsibility for the control of tuberculosis.

2nd. The definition of tuberculosis should embrace all forms of the disease.

3rd. The State may delegate its responsibility to Local Authorities, to Provincial Governments, to Voluntary Bodies in order that the moral responsibility for the control of this disease should be spread over the whole citizen body.

4th. A vigorous programme of research must be instituted in order to solve the important problems listed in this paper and many other unknown factors.

5th. Meanwhile the time-honoured methods used with success in other lands should be applied to South Africa:—

(a) Publicity and education of the whole public in hygienic living is probably one of the most important things which must be done in South Africa. There is an appalling lack of elementary knowledge of this sort in all sections of the community, but mostly in the non-Europeans.

(b) The training of sufficient Nurse Aides of each race to cope with the ill.

(c) The provision of austerity hospitals with enough beds for cases needing treatment or isolation.

(d) The institution of settlements for all races, including sheltered employment.

(e) Provision for the family while the breadwinner is in hospital.

(f) The ultimate return of the cured case to ordinary life.

(g) The provision of diagnostic facilities, clinical, bacteriological and radiological, including mass X-ray, so that cases are found in time for cure.

(h) The use of B.C.G. or Vole Vaccines. There seems to be a large body of evidence to the effect that these do raise resistance to infection. Therefore we must use them in a country where the disease is so high in its incidence and death rate, in the non-European section of the community.

(i) The provision of an adequate diet for all sections of the community, even if we do not know the exact role of diet in resistance to this disease.

(j) The provision of adequate housing and recreational facilities for all sections of the community.

SUMMARY

1. The lack of knowledge of the most important factors in tuberculosis is stressed.

2. It is suggested that the State assumes primary responsibility for the control of tuberculosis and delegates this authority so that the moral responsibility is shared by the whole citizen body.

3. A vigorous programme of research is advocated.

4. Meanwhile time-honoured methods of control should be followed.

SARCOMATOUS CHANGES IN MYOMAS OF THE UTERUS

A CLINICAL STUDY OF 21 CASES

H. W. C. T. HANSEN, M.B., B.CH. (RAND)

*From the Universitätsfrauenklinik, Basle, Switzerland**

The most common form of sarcoma of the uterus is the one that develops in a pre-existing myoma. The way in which this sarcoma develops was formerly considered to be a gradual changing of the muscle or connective-tissue cells of the myoma into malignant sarcomatous cells. This view has however been given up, the more accepted theory being that undifferentiated cells of mesodermal origin are present in the myoma from the outset and that some kind of stimulus sets off their growth, leading to the development of the sarcomatous tumour in the myoma.

The incidence of sarcomatous changes in myomas has been computed by Albrecht to be less than 1% for all uterine myomas and 3% for all histologically examined myomas. Novak found a 0.56% incidence in 6,981 histologically examined myomas, Kelly and Cullen 1.2%, Kimbourgh 1.02%, Frankl 2.02%. In the material under consideration, uterine tumours were diagnosed in 2,093 patients, during the period from 1935 to 1948 inclusive. Of these 1,463 were operated on and the extirpated myoma or uterus histologically examined. In this way 18 sarcomas were found developing in myomas, giving, therefore, an incidence of 0.9% for all clinically diagnosed uterine tumours in hospitalized patients and a 1.2% incidence for all histologically examined myomas. It is of interest to know that during the same period, only six cases of primary sarcoma of the uterus were observed, being less than one-third of all the sarcomas of the uterus encountered. This low incidence of 0.9% for sarcomatous changes in myomas in hospitalized patients means that the incidence for all myomas, including those not causing any sign or symptom, is still lower, so that the removal of a myoma, only because of the danger of malignancy does not seem to be justified; which is contrary to the treatment of ovarian cysts or tumours, as these are usually extirpated, whenever discovered, because of the danger of malignancy.

Hereditary factors were not prominent in these patients. Of the 21, only three had malignancy in the family history (14.3%), one had malignancy in both parents, the father having died of cancer of the stomach and the mother of cancer of the breast, suggesting a greater likelihood of development of a sarcoma in a myoma, in a patient burdened with hereditary factors. Novak found malignancy absent in the family history in 94.6%, and present in 5.4% of the patients in his study of sarcoma of the uterus.

Wintz and Wittenbeck maintain that the dosage used in roentgen castration as carried out by them could be sufficient to destroy latent sarcomatous cells that may be present in the myomatous uterus at the time. This observation was not sustained in this investigation as three patients were roentgen castrated for menorrhagia, 9-14 years before, but still showed sarcomatous changes in the myomas removed.

As to the age incidence of this tumour, the youngest patient in Albrecht's series was found to be 19 years of age, the oldest 63 years. Veit, Frankl and Gàls found it to be more common in the menopausal and postmenopausal period, in contrast to the primary sarcoma of the uterus which, according to most authorities has its highest incidence in the postmenopausal age, except for the grape-like sarcoma of the cervix, not observed in this series, which characteristically develops in infancy and early childhood. Our figures correspond more or less with the above. The youngest patient being 33 years, the oldest 62 years, the average age, 49 years. The greatest incidence was in patients of the third and fifth decade, the majority, that is eighteen of the twenty-one cases were sixty years or under (Table I).

TABLE I

Showing the Age Incidence of Sarcomas Arising in Myomas

Age	*Number of patients*
31—40 years	7
41—50 years	5
51—60 years	7
61—70 years	2

* Director Prof. Dr. Th. Koller.

Compared to this, the six primary sarcomas observed during the same period, were as a rule of a more advanced age, with one exception, the youngest patient being 36 years, the others 49, 60, 65, 72 and 74 years of age, giving an average age of 59 years. The majority of sarcomas in myomas occurred therefore before 60 years and the majority of primary sarcomas after 60 years of age.

The age of puberty in these patients varied from 12 to 20 years, and as in the 48 cases of sarcoma of the uterus mentioned by Novak, the majority were between the ages of 13 and 15 years. Seven of the 21 patients showed a late onset of puberty.

TABLE II

Age at Puberty	*Number of Patients*
Under 13 years of age	1
13—15 years	13
More than 15 years of age	7

With regard to fertility and the incidence of sarcomatous changes in myomas, the figures given by Veit indicate that about a quarter of the patients are nulliparae. In this series, six were nulliparous, three more had one child only (Table III). About one quarter were therefore nulliparous. The myomatous uterus being more common in the nulliparous, the findings are as one would expect, that is, a relatively higher incidence for nulliparous women, in contrast to cancer of the cervix which is more frequent in multiparous women. This higher incidence in nulliparae is however not very convincing as in the same group of 21 patients six had three or more confinements, one patient having had nine.

TABLE III

Parity	*Number of Patients*
Nulliparae	6
1-parae	3
2-parae	6
3 and more -parae	6

SYMPTOMS AND SIGNS

The more important signs and symptoms of malignant changes in a moyoma are the following:

1. Rapid increase in size of the myoma;
2. Irregular vaginal bleeding;
3. Sudden onset of pain in the myoma;
4. Ascites;
5. Cachectic deterioration in the patient's general condition;
6. The increase in size of the myoma in the menopause.

These signs are not pathognomonic for sarcomatous changes in a myoma, but should draw attention to the possibility of a sarcoma developing in the myoma.

Table IV shows the incidence of the symptoms complained of by the 21 patients, when they were admitted to hospital, the most frequent being pain in the lower abdomen radiating into the back and thighs, and as a rule considered to be arising from the myoma. The second most common complaint being menorrhagia, also a frequent complaint in myoma cases.

TABLE IV

Symptoms	*Number of Patients*
Lower abdominal pain	16
Menorrhagia	7
Metrorrhagia	3
Postmenopausal bleeding	4
Growth of a myoma in the menopause	1
General debility and weakness	3
Vaginal discharge	3
Loss of weight	5
Disturbance of defaecation and urination	2
Sudden increase in size of myoma	1

Of the more characteristic signs of malignancy, rapid increase in size of an existing myoma was observed once only. Ascitis was not present in any of the 21 patients. The most common sign of malignancy was found to be irregular bleeding or postmenopausal bleeding. A common complaint suggestive of malignancy, was loss of weight and general debility. A pathognomonic sign of sarcomatous change in a myoma, namely increase in size of the myoma in the menopause or after roentgen castration was observed once only.

TABLE V

Signs and Symptoms of Malignant Changes in Myomas	*Number of Patients*
Rapid increase in size of myoma	1
Metrorrhagia	7
Sudden onset of pain in myoma	2
Ascitis	–
Loss of weight and general debility	5
Increase in size of myoma in the menopause	1

HISTOLOGY

Histologically these cases have been divided into round, spindle, and mixed cell sarcomas with an additional group, the carcino-sarcomatous type. The most frequently encountered was the mixed or polymorphous cell type, followed by the spindle cell type. Only two cases of the more malignant round cell sarcoma were amongst these cases. Two cases were observed where both mesodermal and endodermal tissues showed malignant characteristics. Hennessy recently described a case of this nature in the *American Journal of Obstetrics and Gynecology*, also giving a review of the literature on this subject. Giant cells considered a valuable diagnostic sign of malignancy, were observed in seven of the twenty-one cases.

TABLE VI

Cell Type	*Number of Patients*
Round cell type	2
Spindle cell type	8
Mixed cell type	9
Adeno-carcinoma type	2

A myoma may sometimes grow rapidly, and clinically simulate a sarcoma, even histologically the differentiation between a myoma and a sarcoma may be impossible. The latter fact was well illustrated in one of these patients where a supravaginal hysterectomy was carried out for a supposed myomatous uterus, recurrences developing within a few months subsequently, casting doubt on the correctness of original histological diagnosis. A short case history of this patient may prove of interest:

Mrs. K. H., aged 51 years, was admitted on 15 December 1938, complaining of pain in the left lower abdomen, radiating into the back. She had her last menstruation in March 1938, followed 8 months later by vaginal bleeding of 8 days' duration. On examination a myomatous uterus of about grapefruit size was found. On 3 January she was operated on and an intraligamentary myoma on the left of the uterus removed by supravaginal amputation.

The following is an extract of the histological report: Histologically the tumor is recognized as a fibromyoma with marked circulatory changes, often with increased oedematous changes present, some parts showing necrosis. Marked inflammatory changes are not present; connective and muscular tissues are present in about equal proportions; sometimes there is a preponderance of connective tissue. *Diagnosis:* Fibroleiomyoma of the uterus with circulatory changes.

The patient was discharged in due course, but readmitted 10 months later with two tumours about the size of small oranges, one in the pouch of Douglas, the other on the left side, above the ligament of Poupart. These were extirpated on 11 December 1939 and were found to be soft, friable, adherent, and could be removed only with difficulty.

The histological report was the following: The histological examination shows a mesenchymal tumor consisting of almost mature cells. Nuclear polymorphism of any marked degree is absent, mitotic figures are also rare, so that the cell structure is of a fairly mature character. The tumour is to be regarded as sarcomatous, and judged by the cellular forms as a fibro-sarcoma of the spindle cell type. Postoperatively roentgen radiation of the pelvis was carried out. The patient died about one year later, following an operation for another abdominal sarcomatous tumour. The postmortem examination showed extensive sarcomatous involvement of the greater omentum, sigmoid, bladder and liver and metastases to the lungs.

This case also demonstrates two signs of possible malignancy in the myoma:

1. The sudden onset of pain in a myoma in the menopause.
2. Vaginal bleeding in the menopause in the presence of a myoma.

TREATMENT

In the earlier cases the supravaginal or total hysterectomy carried out for the myoma and its symptoms was considered sufficient in the majority of cases, and no postoperative irradiation was carried out. This treatment is now regarded as inadequate, almost all cases, are now roentgen and radium irradiated postoperatively. Where the tumor was large and adherent with probable sarcomatous spread to neighbouring

TABLE VII

Treatment Carried out in 18 Cases of Sarcomatous Degeneration in Myomas

Treatment Carried Out	*Number of Patients*
1. Supravaginal or total hysterectomy	9
2. Supravaginal or total hysterectomy with prophylactic postoperative radiation	4
3. Inadequate operative measures with therapeutic roentgen radiation	5

TABLE VIII

End-Results in 9 Patients with Sarcomatous Changes in Myomas Treated by Operative Measures Only

Patient		*Histology*	*Operation*	*End-Results*
1. B.M.	61 years	Carcino-sarcoma. Sarcoma arising in myoma. Giant cells present.	Supravaginal hysterectomy (Roentgen + radium radiation of the recurrent tumour).	Local recurrence in the cervix 3 months later. Died 6 months later of sarcoma.
2. B.-M.	57 years	Polymorphous, myoblastic sarcoma. No giant cells.	Supravaginal hysterectomy (Roentgen + radium radiation of the recurrent tumour).	Local recurrence in left parametrium 3 years post-operatively. Died of sarcoma 6 years later.
3. B.-T.	34 years	Round cell sarcoma. No giant cells.	Supravaginal hysterectomy (repeated roentgen + radium to the recurrent tumour).	Local recurrence in right parametrium 13 months after operation. Died of sarcoma 13 years later.
4. W.-M.	58 years	Adeno-sarcoma arising in myoma. No giant cell formations.	Total vaginal hysterectomy.	Died 10 months later due to sarcoma.
5. K.-H.	52 years	Fibroleiomyoma of the uterus. Spindle cell sarcoma in recurrent tumours.	Supravaginal hysterectomy (Roentgen radiation of the recurrent tumour. Later attempted operative removal).	Local recurrences in left parametrium and above Poupart's ligament 11 months postoperatively. Died of sarcoma 1½ years later.
6. R.-V.	33 years	Polymorph, cell type. Malignant changes in fibroleiomyoma. Giant cells present.	Total hysterectomy.	Cured 4 years later.
7. J.-K.	40 years	Necrotic myoma with probable malignant changes. No giant cells.	Supravaginal hysterectomy.	Metastases to lungs + pancreas + subcutanous tissue. Died 2 years after operation.
8. O.W.	40 years	Malignant changes in uterine myomas. No giant cells.	Supravaginal hysterectomy.	Assumed cured 4 years later.
9. R.W.	48 years	Polymorph cell type. Malignant changes in fibroleiomyoma. Giant cells present.	Total vaginal hysterectomy.	Cured 2½ years later.

organs, roentgen radiation only, was carried out, as a last hope.

The patients in the first group of Table VII are mostly the earlier cases when the operation was considered as adequate and the tumor supposed to have been completely removed. Those of group II had additional roentgen and radium radiation to the pelvis after the malignant nature of the myoma became known. In group III the operative measures were known to have been insufficient or were not carried out at all. Here roentgen radiation was carried out as a last resort. The treatment here given (Table VII) does not include any measures taken for local recurrences, but only those carried out when the nature of the disease was first recognised.

END-RESULTS

The prognosis in many of these cases appeared to be good after the operation due to the fact that the sarcomatous area was supposed to have been small, well circumscribed and not spreading beyond or penetrating the limits of the myoma. Recurrences, however, were frequent, developing as a rule, to the right or left of the cervical stump in the parametrial tissues, or in the cervical stump itself. Metastases, usually to the lungs, may develop early in the disease. This was well demonstrated in one patient where a myoma with a small well demarcated area of sarcomatous changes near the centre, was removed by supravaginal amputation. No recurrences developed but the patient died of extensive lung metastases two years later.

Table VIII shows that five of nine cases (56%) ultimately died of sarcoma although the prognosis was considered to have been good after the operation. Four (44%) of these patients had local recurrences and one metastases to the lungs, indicating that the sarcoma had spread further than the macroscopic or microscopic findings suggested or, that sarcomatous cells were dis-

TABLE IX

End-Results in 4 Patients with Sarcomatous Changes in Myomas Treated by Operation and Irradiation Postoperatively

Patient	*Histology*	*Operation*	*End-results*
10. G.–H. 43 years	Fibrosarcoma. Necrotic myoma. Giant cells present.	Supravaginal hysterectomy. Roentgen radiation postoperatively and of recurrent tumor.	Local recurrence 10 months later. Died one year later.
11. S.–M. 52 years	Spindle cell sarcoma. No giant cells present.	Supravaginal hysterectomy with roentgen and radium irradiation postoperatively.	Cured 5 years later.
12. M.C. 50 years	Polymorph, cell type sarcoma. Giant cells present.	Supravaginal hysterectomy with roentgen radiation postoperatively.	Cured one year later.
13. W.–V. 40 years	Polymorph, cell type sarcoma. No giant cells.	Supravaginal hysterectomy with roentgen radiation postoperatively.	Cured 1½ years later.

TABLE X

End-Results in 5 Cases of Sarcomatous Changes in Myomas in an Advanced Stage of the Disease

Patient	*Histology*	*Operation*	*End-results*
14. G.–A. 60 years	Round cell sarcoma. Necrotic myoma. No giant cells.	Supravaginal hysterectomy (large, soft, necrotic, friable mass).	Implantation metastases of the rectus muscles and peritoneum. Died 6 weeks after operation.
15. B.–M. 38 years	Fibro-myomatous malignant tumor. No giant cells.	Supravaginal hysterectomy. (Morcellation, large, necrotic, friable tumor).	Died 16 days after operation.
16. L.–K. 59 years	Spindle cell type sarcoma. No giant cells.	Curettage. Roentgen radiation.	Died of peritonitis and pneumonia 37 days after curettage.
17. S.–W. 62 years	Polymorph, cell type sarcoma. No giant cells.	Total hysterectomy with roentgen radiation. (Dissemination of necrotic material in abdominal cavity.)	Multiple abdominal metastases. Died 5 months after operation.
18. O.–J. 58 years	Polymorph, cell type sarcoma. No giant cells.	Supravaginal amputation of large adherent necrotic tumor (Morcellation) Roentgen and radium irradiation postoperatively.	Died a few months after operation of general cachexia.

lodged at the time of the operation, leading to local recurrences or, as in case No. 7 to metastases to the lungs. All recurrences were treated with roentgen radiation, sometimes with additional radium applications to the cervical stump, if it was involved. The recurrent tumours usually became smaller at first, but were never stopped in their further development, causing the death of the patient eventually.

Table IX shows the end-results in cases where roentgen radiation alone or radium in addition was used postoperatively. The results seem to be better than in the previous group of patients where no radiation was used after operation. Of four cases two are well and free from recurrences 1½ years later, another five years later.

In this group only one patient died of sarcoma following on the development of a local recurrence. The three patients treated during the course of the present year, fall into this group and have been included in the diagrammatic representation of the end-results in the three groups (Fig. 1).

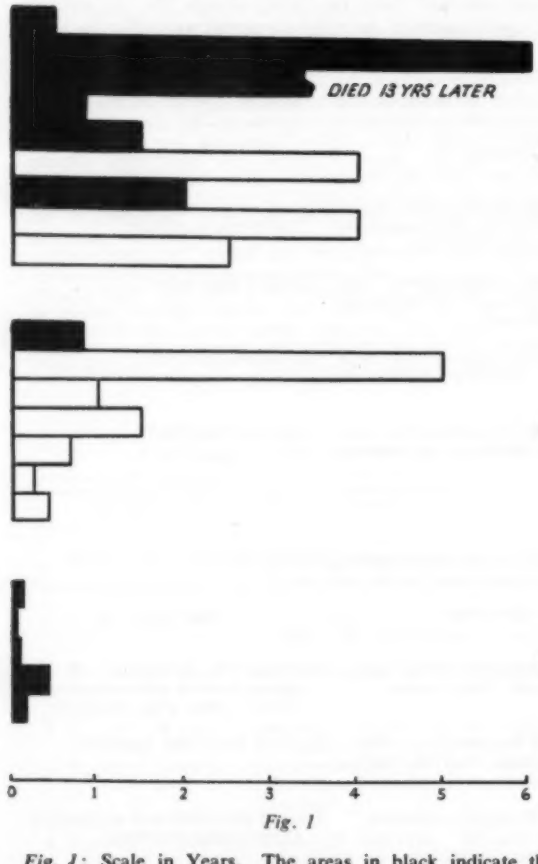

Fig. 1

Fig. 1: Scale in Years. The areas in black indicate the time in years elapsed since the operation, in those patients where death occurred, the light areas the time since operation in the patients considered cured.

A: Patients treated by operation only, without prophylactic postoperative irradiation. Recurrences in this group were irradiated and occasionally removed operatively.

B: Patients treated by operation and postoperative prophylactic irradiation.

C: Patients with too far advanced sarcomatous spread for adequate therapeutic measures.

The patients of Table X all had a very poor prognosis when first seen and treated, as the sarcomatous changes were too far advanced for adequate treatment. All five died within a few months after the operation. One died of pneumonia and peritonitis following on a perforation of the friable, sarcomatous uterine wall during curettage.

The end-results of these 18 cases, excluding the three recent ones, show that 12 (60%) died of sarcoma eventually. With earlier recognition of the disease, by operating on all myomatous uteri of orange size and more, showing abnormal growth, irregular bleeding or associated with pain, and by routine postoperative roentgen and radium radiation where sarcomatous changes have been detected in the myomatous tumours, it is hoped to improve the salvage in this disease in future.

REFERENCES

Albrecht, H. (1928): *Pathologische Anatomie und Klinik des Uterus-sarkoms.* Halban-Seitz. *Biologie und Pathologie des Weibes.* Wien: Urban und Schwarzenberg.

Hennessy, James P. (1947): Amer. J. Obst. Gynec., **54,** 336.

Kimbourgh, R. A., Jr. (1934): Amer. J. Obst. Gynec., **28,** 723.

Martius, H. (1946): *Lehrbuch der Gynaekologie.* Stuttgart: Georg Thiemé.

Meyer, R. (1935): Veit-Stoeckel: *Handbuch der Gynaekologie.* 6 Bd. Muenchen: J. F. Bergmann.

Novak, E. (1937): Amer. J. Obst. Gynec., **43,** 740.

Ribbert-Hamperl (1944): *Lehrbuch der allgemeinen Pathologie und der pathologischen Anatomie.* Berlin: Springer-Verlag.

Wintz, H. and Wittenbeck, F. (1935): Veit-Stoeckel. *Handbuch der Gynaekologie,* 4 Bd. Muenchen: J. F. Bergmann.

NEW PREPARATIONS AND APPLIANCES

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VERENIGINGSNUUS : ASSOCIATION NEWS

MEETING OF THE JOHANNESBURG SUB-GROUP OF THE ASSOCIATION OF SURGEONS OF SOUTH AFRICA ON 7 FEBRUARY 1950

Mr. de Bruyn (in the chair) decided that the case be shown first, to be followed later by discussion. He called on *Mr. Tucker* to show a case of swelling in the neck. Mr. Tucker presented a case with a five months' history of pain in the

lower jaw which originated from an extraction of dental roots. He was a farmer who had slaughtered his own cattle.

The patient looked ill and in great pain. His face was distorted with gross swelling of the left side, associated with considerable induration of soft tissues. There was a recent infected biopsy wound in the mouth. The tongue was elevated and the surface skin over the swelling dusky and inflamed. He had been in hospital elsewhere having received Penicillin and Streptomycin treatment with no improvement. The swelling had greatly increased with no great pain until two weeks ago, when he was admitted.

Before the biopsy the swelling was a hard bony mass, but now there was inflammatory oedema.

He had been treated with potassium iodide, and X-rays revealed no periosteal reaction. *Mr. Tucker* was not prepared to state whether there was osteomyelitis. A biopsy had only shown inflammatory tissue.

From a clinical point of view, was there an infection of the parotid gland? No pus was visible escaping from Stensen's duct. There was no pitting, fluctuation or sinuses down to the jaw bone.

Mr. Tucker asked the meeting to discuss the case and decide what should be done about it. He said they were going to try X-ray therapy as he thought it was a malignant condition.

Mr. de Bruyn called upon *Dr. Keen* to show his case of glandular swellings in the neck, groin and arm pits. This, said *Dr. Keen,* was a proven case of Hodgkin's disease which, in his experience, was rare in non-Europeans.

This case had the clinical physical signs of the glands in the upper neck and he had only seen two cases in the Non-European Hospital with proved Hodgkin's showing this. A biopsy on the patient's glands in neck and groins had proved it to be a typical Hodgkin's disease.

An interesting feature in this case was that he had been in Hospital for two weeks and had been treated with X-rays, which had caused his glands in the groin axilla and neck to wither away, although he had had no therapy treatment in the neck. This was definitely against tuberculosis. He presented this case as Hodgkin's disease in a Native, and expected criticism.

Another Native with a very large swollen lump in her neck was examined.

Mr. Adler referred to a case which was diagnosed as lung hernia through Sibson's fascia. The lump appeared after coughing, and remained. He thoracoscoped the case and it was not a hernia.

At operation there was a tense, cervical swelling like a dumbbell, with some swelling in the chest and some in the neck and was a very good example of a cystic hygroma which passed up into the neck.

After all the patients had been palpated, there was a general discussion.

Dr. Keen said that in *Mr. Tucker's* case, the patient had become immune to Penicillin and Streptomycin treatment and that this was an infection of bone.

Dr. Kay suggested that the X-rays of the first case should be taken more seriously, as a small area of osteoporosis seen may be a Brodie's abscess of the mandible, and that if it were his case he would remove the outside shell and leave in Penicillin and Streptomycin tubes.

Mr. Colsen referred to *Mr. Tucker's* first case by saying that he would not like to label it as inflammatory, but as a true tumour. Biopsy had been known to fail on occasions and he suggested that a biopsy be taken from the middle of the swelling and not only from the outside. *Mr. Colsen* submitted a diagnosis of a true tumour.

Mr. Lewin said it made him think of a Pott's puffy tumour; it could be a carcinoma very deep seated.

Mr. Girdwood, referring to the first case, said that X-rays revealed some osteoporotic destruction but not typically inflammatory. It was unlike a septic lesion with osteomyelitis to have had this condition so long without abscesses and sinuses. Actinomycosis had to be considered and here again the absence of sinuses was against this and also the even slight involvement of the bone. Though the indurated condition strongly suggested it, the great deal of pain was against it.

With regard to tumour, this was not a carcinoma of tongue or glands. It was not a common tumour such as an osteogenic sarcoma or clinically localized enough for fibrosarcoma. There was no evidence of a central erosion to suggest a central tumour. There were no typical bone changes to suggest Ewing's tumour or myelomatosis. If this was a tumour, it must be a very rare type of lesion and diagnosis of rarities should always be discouraged. It was possibly actinomycosis or chronic infection with an altered course by reason of chemotherapy.

Of the second case, the glands in the neck, he referred to a case of Felty's syndrome seen recently, glands in the neck appearing like marbles, and glands in the groin, and an enlarged spleen plus the history of joint stiffness, proved by biopsy to be a case of Felty's syndrome.

With regard to the third case with the swelling in the neck, it moved on swallowing and he would call it a thyroid swelling.

Mr. Flemming referred to the last case. It seemed to him that the absence of any line of demarcation was against a tumour. One point which he would like to record, and which had not yet been brought up, was that the parotid appeared to be infected. Was it not possible that a parotid abscess was treated by antibiotics so that this chronic state persisted? If it was incised, one might find pus in the parotid.

The other swelling in the neck reminded him of a woman who had a goitre which was carried slung over her shoulder.

Mr. Laubsher said that the first case presented with paraesthesia in his left lip, which pointed to an infection there. One would probably find low-grade infection of the bone.

Mr. Orlek agreed with the opinion of low-grade infection from the mandible, but prior to any cutting, a needle could be inserted and he was sure that a little pus would be found. The second case was definitely a Hodgkin's, and the third was goitre in origin.

Mr. Lewin said he would call the third case a lipoma. It looked and felt like a lipoma.

Mr. Adler asked why, when she breathed, the right side moved.

Dr. Gayliss pointed out to the meeting that there was a facial paralysis present on the side of the swelling. This strongly favoured malignancy. There were several dissentients.

Mr. de Bruyn, in concluding the meeting, referred to the first case as a chronic inflammatory actinomycosis and suggested doing a puncture to get pus from the depth. A course of iodides coupled with therapy might help.

With regard to the second case of Hodgkin's disease, it was very difficult in some cases to establish the pathology in glands and to decide whether they were tubercular or malignant. *Dr. Keen* had said that the main fact against tuberculosis was the reaction to treatment, indicating Hodgkin's disease.

Mr. Adler's most interesting case was well worth presenting.

With regard to the third case, the non-European woman, he would call it a pedunculated cyst of the right thyroid. Personally he would be surprised if it were a lipoma. If they did operate on her, he was sure the meeting would be very interested to know what was found.

Mr. de Bruyn thanked everybody for attending.

LATER REPORT

Case 1. Definite facial paralysis developed. Reticulosarcoma.

Case 3. Goitre.

GOVERNOR-GENERAL'S NATIONAL WAR FUND

Federal Council agreed that the Tariff applicable to approved Medical Aid Societies would apply in cases treated under the Governor-General's National War Fund, and that this would be so for both specialists and general practitioners. Regarding the wish expressed by this Fund that it wished to appoint honorary medical officers to visit the various Homes established by the Fund, it was agreed that an honorarium of £1 1s. per capita per annum was reasonable, and if the Fund wished to institute any change and appoint paid officials, it should submit a scheme which could be considered by the Central Committee for Contract Practice.

THE MEDICAL ASSOCIATION OF SOUTH AFRICA

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 DECEMBER 1949

	£ s. d.	£ s. d.
Establishment Charges		
Rent 'Medical House'	480 0 0	
Net Expenses on Medical Secretary's House	542 7 11	
Depreciation of Office Furniture, Fixtures and Machines	193 12 2	
		1,216 0 1
Administration Expenses		
Salaries, Pension Fund and Pension	7,475 14 9	
Postages and Telegrams	547 2 2	
Printing and Stationery, and Office Requisites	812 10 8	
Audit and Accountancy Fees	157 10 0	
Telephones	137 4 7	
Sundry Office Expenses	763 19 6	
		9,894 1 8
General Expenses		
Travelling Expenses	1,809 6 5	
Entertainment Expenses	100 0 0	
Medals, Ribbons and Clasps	66 4 11	
		1,975 11 4
Printing of Medical Journal		13,465 4 11
Grants to Universities for Library Services		
Cape Town	150 0 0	
Witwatersrand	150 0 0	
		300 0 0
Excess of Income over Expenditure		4,658 13 10
		£31,509 11 10

	£ s. d.	£ s. d.
Income from Medical Journal		
Advertising, less commission	22,041 5 7	
Subscriptions and Sales	5,062 7 1	
Miscellaneous	178 7 7	
		27,282 0 3
General Income		
Capitation Fees	1,751 6 9	
Agency	1,499 13 8	
Insurance Commission	660 11 3	
Interest on Investments	298 4 1	
Miscellaneous	17 15 10	
		4,227 11 7
		£31,509 11 10

BALANCE SHEET 31 DECEMBER 1949

	£ s. d.	£ s. d.
Accumulated Funds		
Balance, 31 December 1948	19,669 10 3	
Add: Excess of Income over Expenditure for the year ended 31 December 1949	4,658 13 10	
		24,328 4 1
National Health Services Emergency Fund—Capital Account		328 7 7
Liabilities		
Sundry Creditors		2,017 0 10
		£26,673 12 6

	£ s. d.	£ s. d.
Assets		
Medical Secretary's Residence, Newlands Avenue, Newlands, Cape—At Cost		7,278 18 9
Office Furniture, Fixtures and Machines—Head Office and Agency: At Cost, less Amounts written off		1,732 0 0
Investments—at cost:		
Union Government Stocks and Loan Certificates	5,122 10 0	
2,550 Shares of £1 each fully paid in Medical House (Proprietary) Limited	2,550 0 0	
Loan—Southern Transvaal Medical Association Estates (Proprietary) Limited (Secured by First Mortgage Bond on Medical House, Johannesburg)	1,750 0 0	
Funds with Cape of Good Hope Savings Bank Society	1,002 1 0	
		10,424 11 0
Sundry Debtors Less Reserve for Bad Debts		6,360 17 5
Cash at Bank and On Hand		548 17 9
National Health Services Emergency Fund		
Cash at Bank—Current Account	320 19 5	
Deposit—Post Office	7 8 2	
		328 7 7
		£26,673 12 6

We have examined the books and accounts and vouchers of the Association and have obtained all the information and explanations we have required. Proper books and accounts have been kept. In our opinion the above Balance Sheet is properly drawn up so as to exhibit a true and fair view of the state of the affairs of the Association according to the best of our knowledge and the explanations given to us and as shown by the books of the Medical Association of South Africa as at 31 December 1949. We have verified the Securities of the Association. The Income and Expenditure Account gives a true and fair view of the income and expenditure for the year ended 31 December 1949.

Cape Town,
15 May 1950.

Gurney, Notcutt & Fisher,
Chartered Accountants (S.A.)
Auditors.

BENEVOLENT FUND

INCOME AND EXPENDITURE ACCOUNT FOR THE TWELVE MONTHS ENDED 31 DECEMBER 1949

	£ s. d.	£ s. d.
To Benevolent Payments		857 0 0
To Printing and Stationery		
Donation Books	84 19 0	
Sundries	6 2 0	
		91 1 0
To Bank Charges		1 5 1
To Balance, being Excess of Income over Expenditure, for the year ended 31 December 1949		1,360 10 0
		£2,309 16 1

	£ s. d.	£ s. d.
By Donations and Sundry Revenue		
Donations	818 7 4	
Services Rendered	402 18 6	
Votive Cards	224 4 0	
		1,445 9 10
By Interest on Investments		864 6 3
		£2,309 16 1

BENEVOLENT FUND

BALANCE SHEET 31 DECEMBER 1949

	£ s. d.	£ s. d.
Accumulated Funds		
Balance, 31 December 1948	23,845 15 4	
Add: Excess of Income over Expenditure for the Year ended 31 December 1949 ...	1,360 10 0	
		25,206 5 4
		£25,206 5 4

	£ s. d.	£ s. d.
Assets		
Investments at Cost		
Union Government Stocks, Certificates and Savings Accounts:—		
£2,500 Union of South Africa 3½% Local Registered Stock 1950	2,500 0 0	
£108 18 1. Union of South Africa 4% Local Registered Stock 1951	113 11 0	
£1,500 Union of South Africa 3½% Local Registered Stock 1952/57	1,492 10 0	
£1,125 Union of South Africa 3% Local Registered Stock 1957/64	1,125 0 0	
£1,000 Union of South Africa 3% Local Registered Stock 1959/69	1,000 0 0	
£1,000 Union of South Africa 3% Local Registered Stock 1960/70	1,000 0 0	
Union of South Africa 3% Savings Bank Certificates	800 0 0	
Union Loan Certificates	787 10 0	
Post Office Savings Bank	218 19 1	
Shares in Building Societies:—		
South African Permanent Mutual Building and Investment Society (60 Paid-up Permanent Shares of £50 each) ...	3,000 0 0	
United Building Society (143 Paid-up Permanent Shares of £50 each)	7,150 0 0	
Saambou (Permanente) Bouvereniging (500 Fully Paid-up Indefinite Shares of £1 each)	500 0 0	
Loan:—		
Medical House (Proprietary) Limited First Mortgage on Medical House, Wale Street, Cape Town	3,500 0 0	
		23,187 10 1
Sundry Debtor		
Medical House (Proprietary) Limited ...		140 0 0
Interest accrued but not paid		324 3 4
Cash		
At Bank—Current Account		1,554 11 11
		£25,206 5 4

We have examined the above Accounts with the Books and Vouchers and find the same to be correctly stated. We have verified the Securities of the Fund.

Cape Town,
15 *May* 1950

Gurney, Notcutt & Fisher,
Chartered Accountants (S.A.),
Auditors.

OFFICIAL ANNOUNCEMENT

ASSISTANT MEDICAL SECRETARY

Applications are invited from bilingual medical practitioners for the post of Assistant Medical Secretary of the Medical Association of South Africa at its Head Office in Cape Town.

The salary scale is £1,250 × 50—£1,500 plus cost-of-living allowance at Government rates (£208 per annum for married persons and £57 4s. for single persons).

The successful applicant will be required to subscribe to the Association's Pension Scheme.

Applications should be addressed to the Medical Secretary, P.O. Box 643, Cape Town, and should be accompanied by three recent testimonials. Closing date for the receipt of applications 31 August 1950.

AMPTELIKE AANKONDIGING

MEDIESE ASSISTENT-SEKRETARIS

Aansoeke deur tweetalige geneeshere word gevra vir die betrekking van Mediese Assistent-Sekretaris van die Mediese Vereniging van Suid-Afrika by sy Hoofkantoor in Kaapstad.

Die salarisskaal is £1,250 × 50—£1,500 plus lewenskostetoelae teen Regeringskaal (£208 per jaar vir getroude persone en £57 4s. vir ongetroudes).

Van die suksesvolle aansoeker sal verlang word dat hy by die Vereniging se pensioenskema aansluit.

Aansoeke moet gerig word aan die Mediese Sekretaris, Posbus 643, Kaapstad, en moet vergesel word van drie resente getuigskrifte. Sluitingsdatum vir die ontvangs van aansoeke 31 Augustus 1950.

IN MEMORIAM

A. ALTMANN, M.D.

Dr. Altmann died in the General Hospital, Johannesburg, on 1 July and his death has robbed South Africa of an outstanding paediatrician and clinical research worker. His published work deals with tuberculosis in Bantu children and with malignant malnutrition, but the most important of his studies still await publication.

He was born in 1905 in Germany and his childhood and adolescence were clouded by the war of 1914-1918 and its aftermath. Having qualified at Berlin University he became an assistant physician in the children's wards of Dortmund municipal hospital, but when the Nazi government gained power he was arrested and spent a brief time in a concentration camp.

He was released and arrived in the United Kingdom in 1933 and obtained the qualifications of L.R.C.P., M.R.C.S. (Edinburgh) and the L.R.F.P.S. (Glasgow). In 1935 he came to South Africa to resume practise as a paediatrician in Johannesburg.

During the last war he served with the S.A.M.C. as a pathologist and saw service in North Africa where he established a considerable reputation as a haematologist. My own association with him began in 1948 when he was appointed Junior Assistant Paediatrician to the Baragwanath Hospital. From the very first it was obvious that he was outstanding as a physician and a research worker and he was appointed Senior Paediatrician in March of this year, at which time he was undergoing his first operation in New York.

His capacity for unceasing work, his single-minded enthusiasm and his unselfish devotion to the interests of his patients commanded the respect and affection of all his colleagues.

His personality was reserved and it took some time to know him well but eventually we all recognized him for what he was—a noble and great-hearted man with an abnormal capacity for rising superior to misfortune and trouble.

When his illness forced him into hospital for the last time he was busy with a paper on malnutrition which he had been invited to read to the International Congress of Paediatricians in Switzerland and, in spite of continuous pain and a hopeless prognosis, he devoted the last four weeks of his life to finishing this work.

His death leaves a gap which it will be impossible to fill for a very long time.

He leaves us the inspiring memory of a courageous and unselfish man who put into life very much more than he ever received from it.

J. C. G.

PASSING EVENTS

Dr. Ben Joffe, F.R.C.S. (Edin.), has begun general practice at Paarl, C.P.

* * * *

The University of Vienna has arranged post-graduate courses organized by the Faculty of Medicine.

The curriculum is designed to prepare the candidate for a diploma. Those interested should communicate with the Honorary Correspondent of the Austrian Information Service, P.O. Box 7999, Johannesburg.

HABIT-FORMING DRUGS

Phenadoxone (6-morpholino-4:4-diphenylheptan-3-one hydrochloride) and Amidone (dl-2-dimethylamino-4:4-diphenylheptan-5-one) have been gazetted as habit-forming drugs (Fifth Schedule of the Medical, Dental and Pharmacy Act, 1928).

CORRESPONDENCE

INTERN GRIEVANCES AGAINST THE MEDICAL COUNCIL

To the Editor: Surely 'Intern's' statement of the £15 registration fee and £2 0s. 3d. for 'retention on register' fee should read:—'represents to the intern . . . the equivalent of one *month's* salary?'

Add to the £17 0s. 3d. above the cost of transport to the hospital of employment and one finds that part of the second month's salary is bespoken.

The registration fee is extremely high for the fully registered practitioner, but to impose this exorbitant demand on the youngster who is not even recognized as a doctor adds injustice to injury.

The registration fee for *all* qualified medical men and women overseas is £5 and includes a free copy of the Medical Register. There is *no* £2 annual 'retention on register' fee.

Hospital experience is vitally necessary for the efficient running of general practice, but the students should be told that their course is now seven years when they enter medical school as 'freshers'; not after they have passed all, or even nearly all, of their examinations.

Furthermore, the registration fee should not be demanded until the medical man actually is registered, i.e. *after* internship.

5 July 1950. *'Mother of Intern.'*

S.A. MEDICAL COUNCIL AND THE ACCEPTABILITY OF OVERSEAS POST-GRADUATE WORK

To the Editor: I have to refer to the publication of a statement by Prof. S. F. Oosthuizen, on the acceptability of work performed as a post-graduate student overseas for the purpose of the rules relating to the registration of specialities, in which it was stated that the post at the Moorfields Hospital which is acceptable to the Specialists Committee, is that of Clinical Clerk.

The Specialists Committee of my Council recently received a letter from Dr. R. C. Davenport, Senior Surgeon, Moorfields Hospital, in regard to this matter. After consideration thereof, the Committee directed me to advise that the nomenclature of the post at the Moorfields Hospital which is acceptable to the Specialists Committee is that of Clinical Assistant (1st Class) and not Clinical Clerk, although the duties of a Clinical Assistant (1st Class) correspond to those of a Clinical Clerk.

I shall be pleased if you will kindly publish this information in your *Journal*, for the information of intending applicants for the registration of their Specialities.

S.A. Medical and Dental Council, W. H. Barnard.
P.O. Box 205, *Asst. Registrar.*
Pretoria.
5 July 1950.

INSURANCE MEDICAL EXAMINATIONS AND REPORTS

To the Editor: As the result of daily scrutiny of Insurance medical reports it appears to me that large numbers of our profession, who do this work, are ignorant of the first principles involved.

Insurance medicine differs from clinical medicine in that all hazards are stressed, whereas, and rightly so, clinical medicine waters down hazards for the patient's mental and physical welfare.

In Life Assurance the proposer's personal statement is the basis of the contract and it behoves the examining medical officer to cross-examine the proposer on acknowledged disabilities so as to give the insurance company the fullest information, especially about the result of any illness and the tests employed to prove its cure.

The questionnaire for the medical examination has been carefully compiled to give the Insurance Company a true picture of the proposer's past medical history, present health and physical condition. Therefore, answers to the questionnaire about physical signs found on examination must be of a positive nature. The answer 'normal' so frequently given is most unsatisfactory. 'Normal' may mean variations between quite wide limits.

If members of our profession wish to retain the esteem and good will which have been their immemorial privilege, they must give of their best in any work they are called upon to do.

Guy Fehrsen, M.R.C.S., Eng., L.R.C.P., Lond.

402, Kelvin House,
c/o Hollard and Marshall Streets,
Johannesburg.
6 July 1950.

TERRAMYCIN

To the Editor: With reference to the correspondence in the *Journal* of 1 July 1950, I would make the following points:—

In respect of Dr. M. Glass's letter, it is quite true that the Mayo Clinic reported unfavourably upon one case of herpes zoster treated with Terramycin. Other trials, however, have been carried out, including a considerable number in Chile and Peru where this disease is endemic. The survey is not yet complete but preliminary results are encouraging.

A recent advertisement in the *Journal* and current brochures draw particular attention to the fact that Terramycin is of no therapeutic value in certain infections.

As regards Dr. J. Marshall's letter, we would respectfully refer to the *Journal of the American Medical Association* of 6 May 1950, pp. 4-5: *'Terramycin in the Treatment of Venereal Disease'*. A total of 81 patients was treated and the findings are set out.

The medical profession is undoubtedly the 'best read' of any, so much so that one does not doubt that current reports are closely followed. Terramycin, however, has been developed with such a speed that the number of reports is already somewhat bewildering.

Finally, I would assure you that every effort is made to prevent unduly optimistic reports on Terramycin from appearing in print or elsewhere. It is apparent, however, that this new weapon in the fight against disease has aroused much interest in the profession as a whole, and that some controversy should arise is understandable.

Petersen Limited, B. E. Bratt, M.P.S.
P.O. Box 38,
Cape Town.
7 July 1950.